



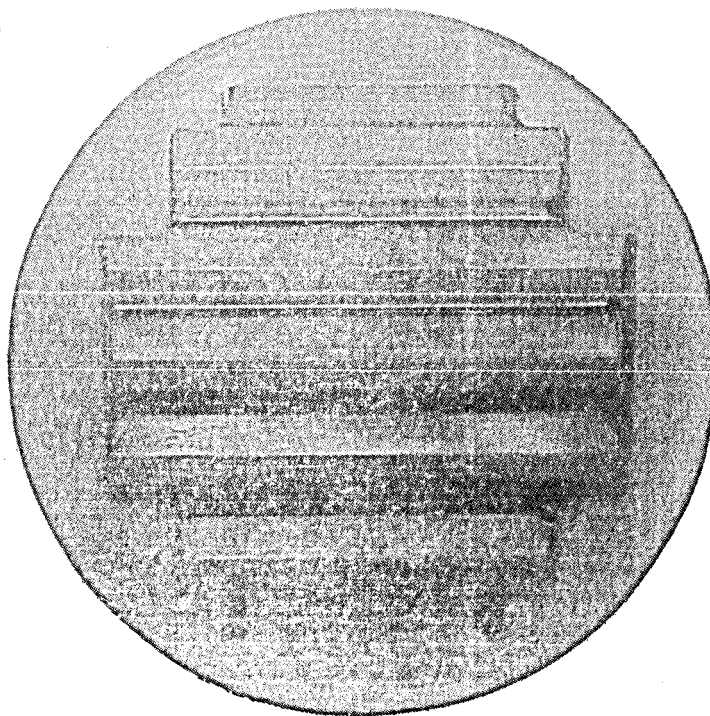
Carbon Deposition Model For Oxygen-Hydrocarbon Combustion

Contract NAS 8-34715
Interim Final Report 2427-IFR
September 1987

Prepared For:
National Aeronautics And Space Administration
George C. Marshall Space Flight Center

By:
R. Hernandez,
J.I. Ito,
K.Y. Niiya

Volume II



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Aerojet
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UTTL: Carbon deposition model for oxygen-hydrocarbon combustion. volume 2

TLSP: Interim Final Report

AUTH: A/HERNANDEZ, R.; B/ITO, J. I.; C/NIIYA, K. Y.

CORP: Aerojet TechSystems Co., Sacramento, Calif.

SAP: Avail: NTIS HC A99/MF A01

CIO: UNITED STATES

MAJS: /*CARBON/*COMBUSTION PRODUCTS/*DEPOSITION/*HYDROCARBON FUELS/*LIQUID
OXYGEN/*MODELS

MINS: / COMBUSTION CHAMBERS/ DESIGN ANALYSIS/ FABRICATION/ GAS GENERATORS/
PERFORMANCE TESTS/ PREBURNERS/ SIMULATORS/ TURBINES

ABA: Author

ABS: Presented are details of the design, fabrication, and testing of subscale hardware used in the evaluation of carbon deposition characteristics of liquid oxygen and three hydrocarbon fuels for both main chamber and preburner/gas generator operating conditions. In main chamber conditions, the deposition of carbon on the combustion chamber wall was investigated at mixture ratios of 2.0 to 4.0 and at chamber pressures of 1000 to 1500 psia. No carbon deposition on chamber walls was detected at these main chamber mixture ratios. In preburner/gas generator operating conditions,

MORE ENTER:

P

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the deposition of carbon on the turbine simulator tubes was evaluated at mixture ratios of 0.20 to 0.60 and at chamber pressures of 720 to 1650 psia. The results of the tests showed carbon deposition rate to be a strong function of mixture ratio and a weak function of chamber pressure. Further analyses evaluated the operational consequences of carbon deposition on preburner/gas generator performance. This is Volume 2 of the report, which contains data plots of all the test programs.

ENTER:

INTERIM FINAL REPORT

Volume II

CARBON DEPOSITION MODEL FOR OXYGEN-
HYDROCARBON COMBUSTION

Contract NAS 8-34715

Aerojet TechSystems Company
P.O. Box 13222
Sacramento, CA 95813

Prepared For:

National Aeronautics and Space Administration
George C. Marshall Space Flight Center
Huntsville, Alabama 35812

Sept.
~~August~~ 1987

RPT/AA0631/087

N88-27255#

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DATA PLOT NOMENCLATURE

CDA	effective area for fluid flow
DPTR	turbulence ring pressure drop
DPTS	turbine simulator pressure drop
DPTS-C	DPTS measured or (PCTSU - PCTSD) if DPTS measured is invalid
NA1	nozzle area based on P_c near injector face
NA2	nozzle area based on P_c downstream of turbine simulator
PCTSD	pressure downstream of turbine simulator
PCTSD-2	second pressure reading downstream
PCTSU	pressure upstream of turbine simulator
PCTSU-2	second pressure reading upstream of turbine simulator
PCTSU-3	third pressure reading upstream of turbine simulator
PRTR	turbulence ring pressure ratio
PRTS	turbine simulator pressure ratio
PRTS CORR	turbine simulator pressure ratio using DPTS-C
TCR-1	thermocouple rake gas temperature
TCR-2	thermocouple rake gas temperature
TCR-3	thermocouple rake gas temperature
TCR-4	thermocouple rake gas temperature
TCR-5	thermocouple rake gas temperature
TCR-6	thermocouple rake gas temperature

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NAS 8-34715

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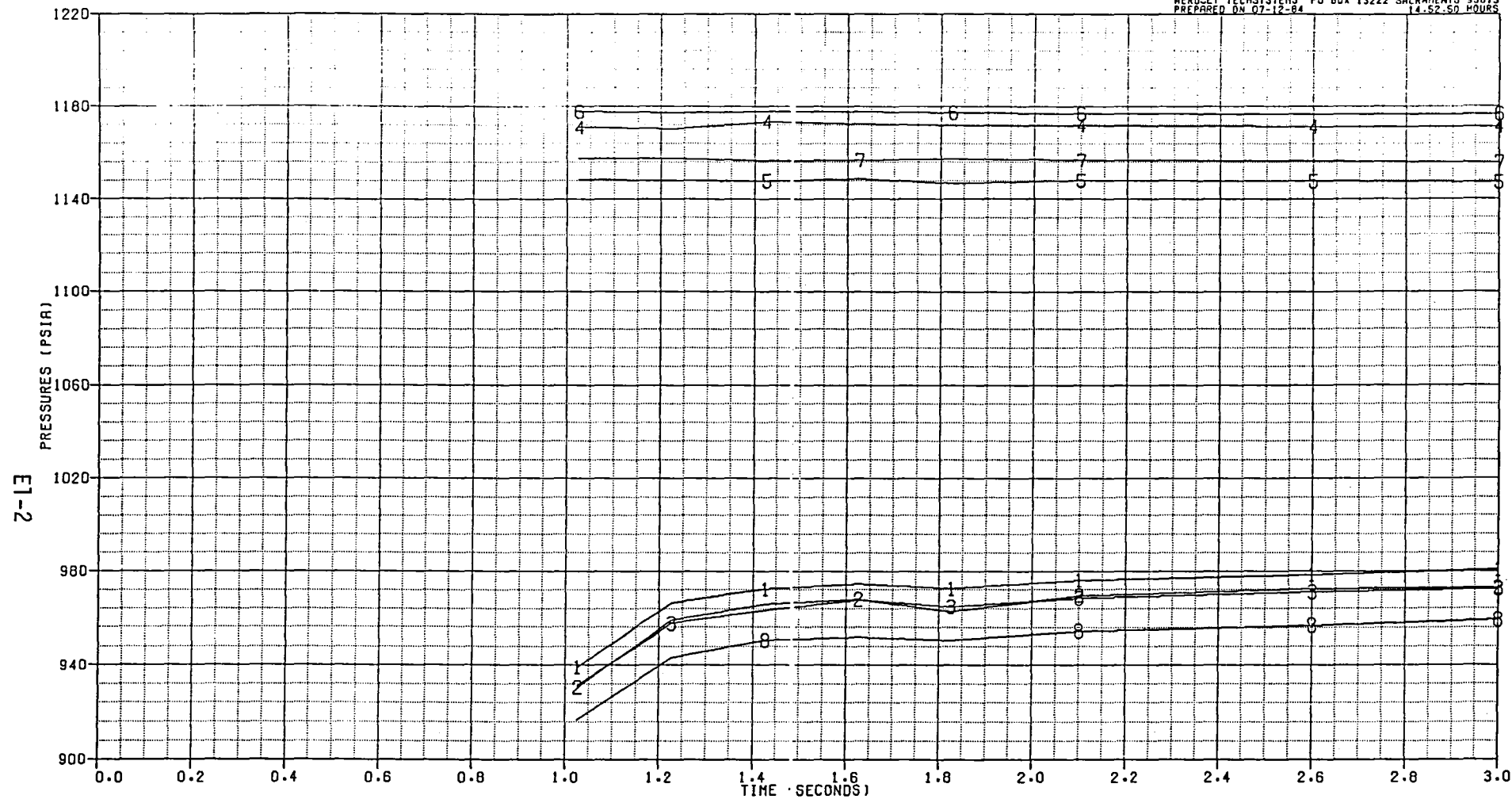
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APPENDIX E-1

1984 LO₂/RP-1

MAIN CHAMBER DATA PLOTS

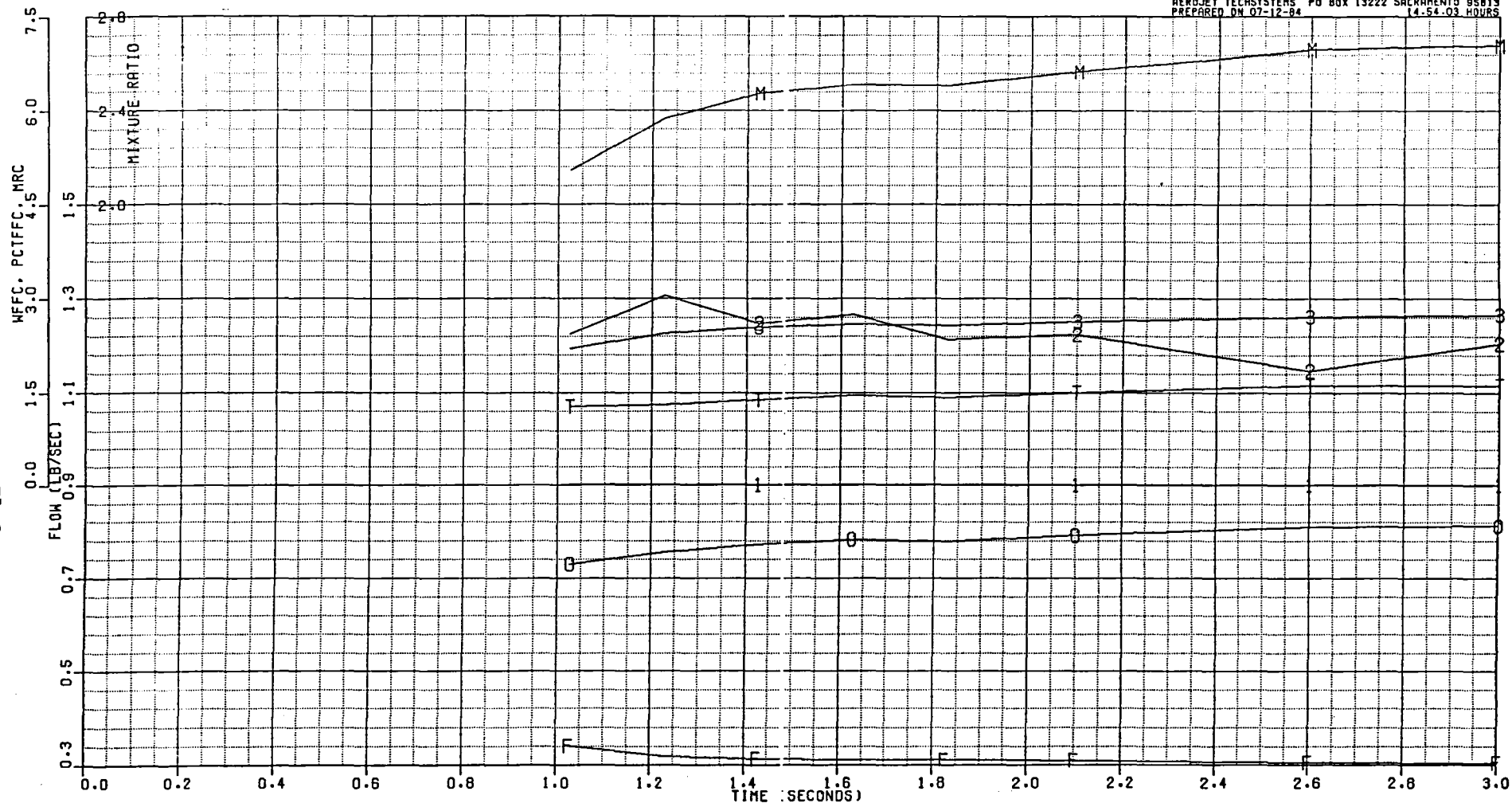


1 PC-1 PSIA
2 POJI PSIA
3 PFJI PSIA
4 POJ PSIA
5 PFJ PSIA
6 POT PSIA
7 PFT PSIA
8 PFC-1 PSIA

INJECTOR PRESSURES VS TIME TEST NO. RLBL-936-202

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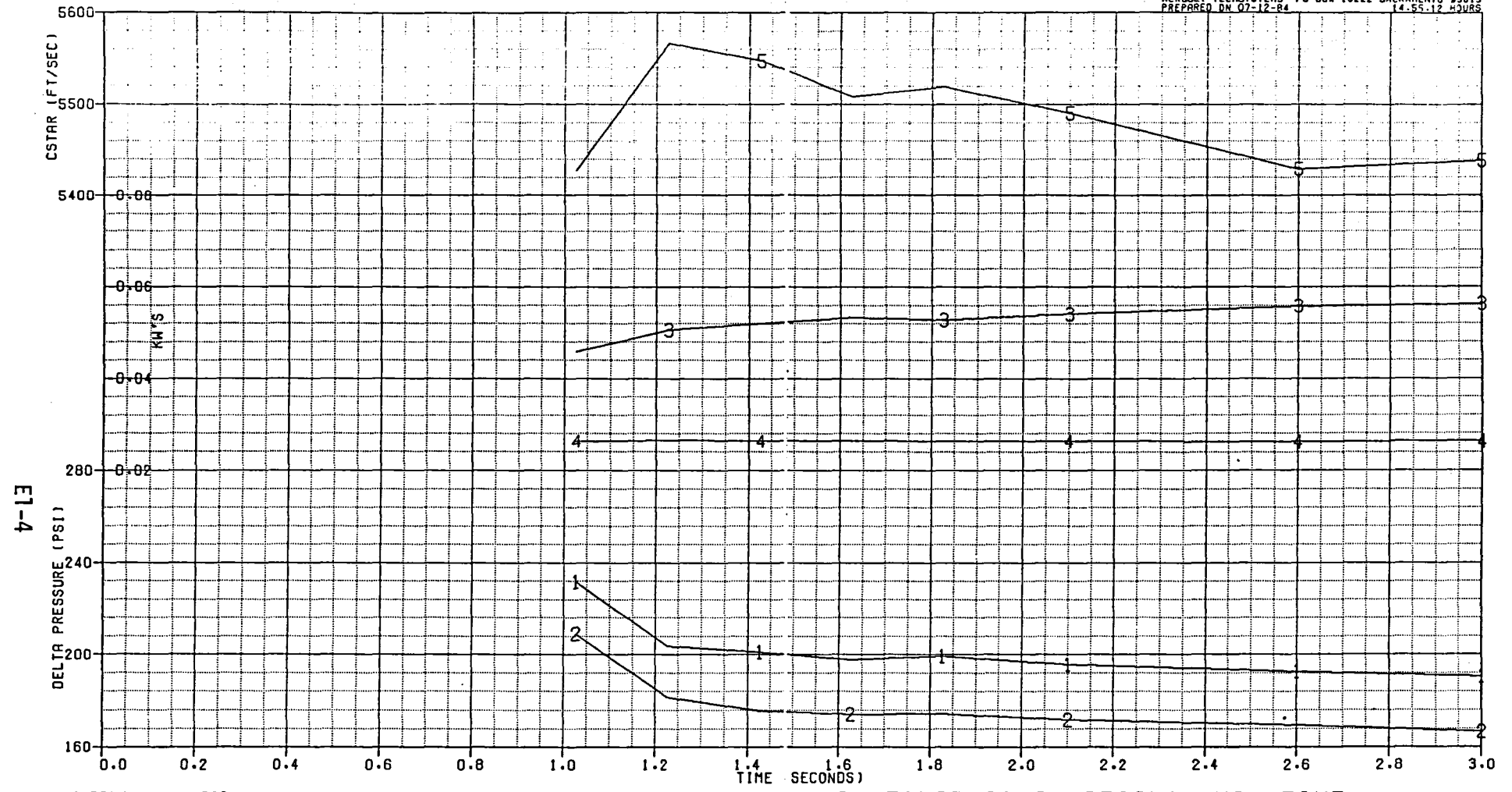
E1-3



F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR
 1 WFFC LBS/SEC
 2 PCTFFC PERCENT
 3 MRC

INJECTOR FLOW VS TIME
 TEST NO. RLBL-936-202

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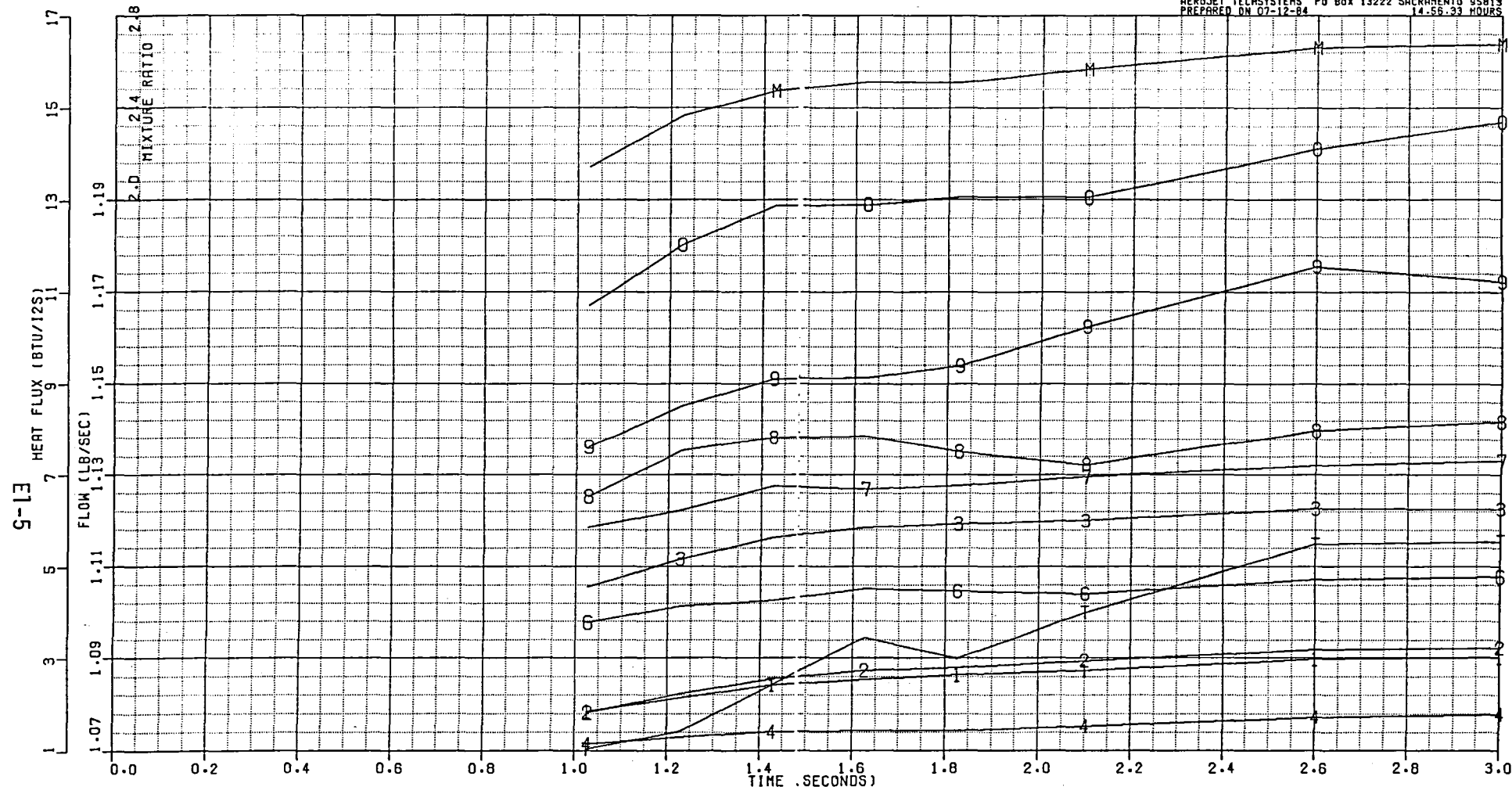


- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ PSI
- 4 KWFJ PSI
- 5 CSTRMC FT/SEC

INJECTOR CALCULATIONS VS TIME

TEST NO. RLBL-936-202

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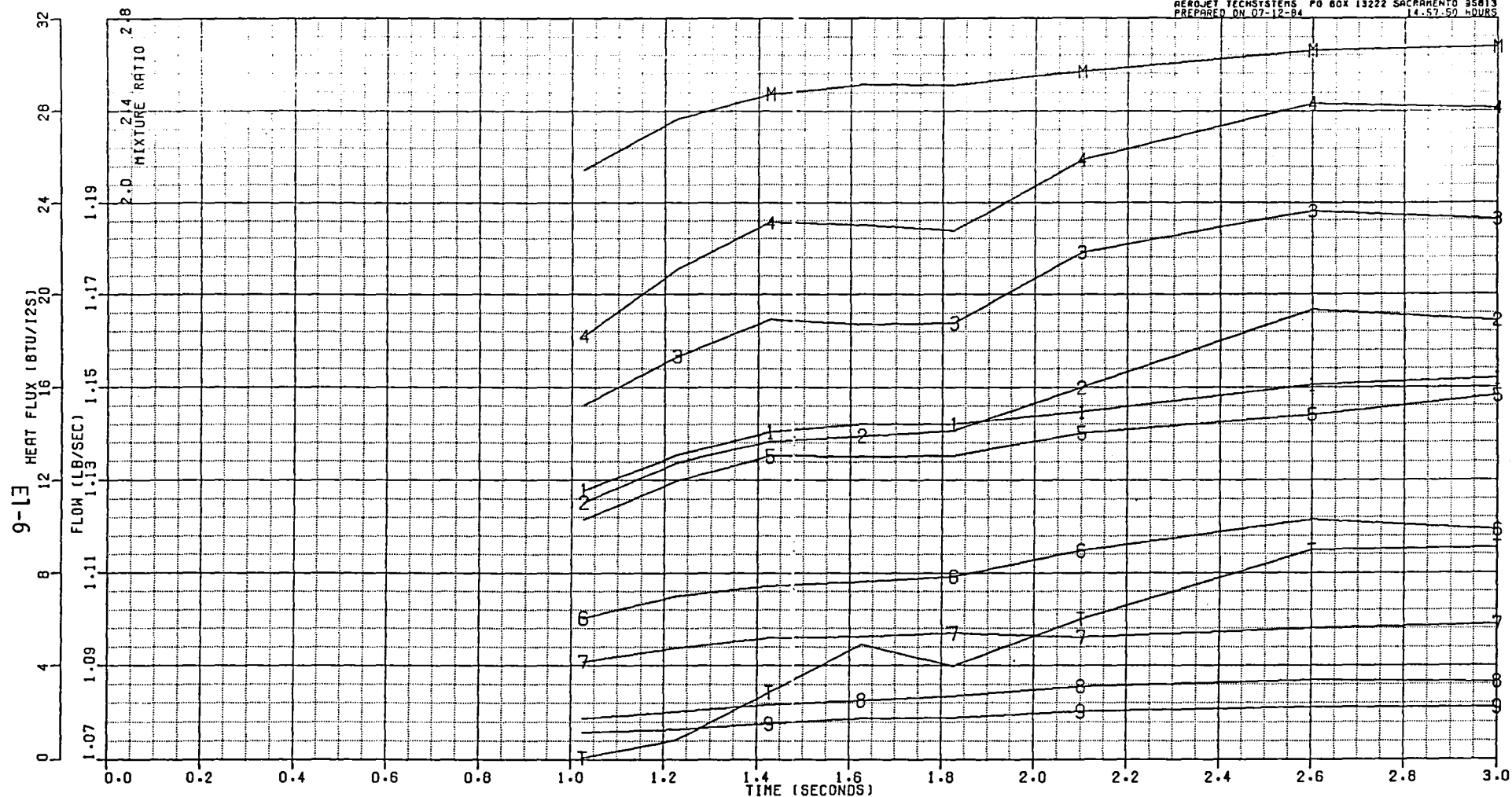


1 Q/AN1-2 BTU/I2S
 2 Q/AN1-3 BTU/I2S
 3 Q/AN2-1 BTU/I2S
 4 Q/AN2-2,-3 BTU/I2S
 6 Q/AN3-1 BTU/I2S
 7 Q/AN3-2 BTU/I2S
 8 Q/AN3-3 BTU/I2S
 9 Q/AN4 BTU/I2S

0 Q/ANS BTU/I2S
 T WTOT LBS/SEC
 M MR

HEAT FLUX (Q/A) VS TIME NOZZLE DATA
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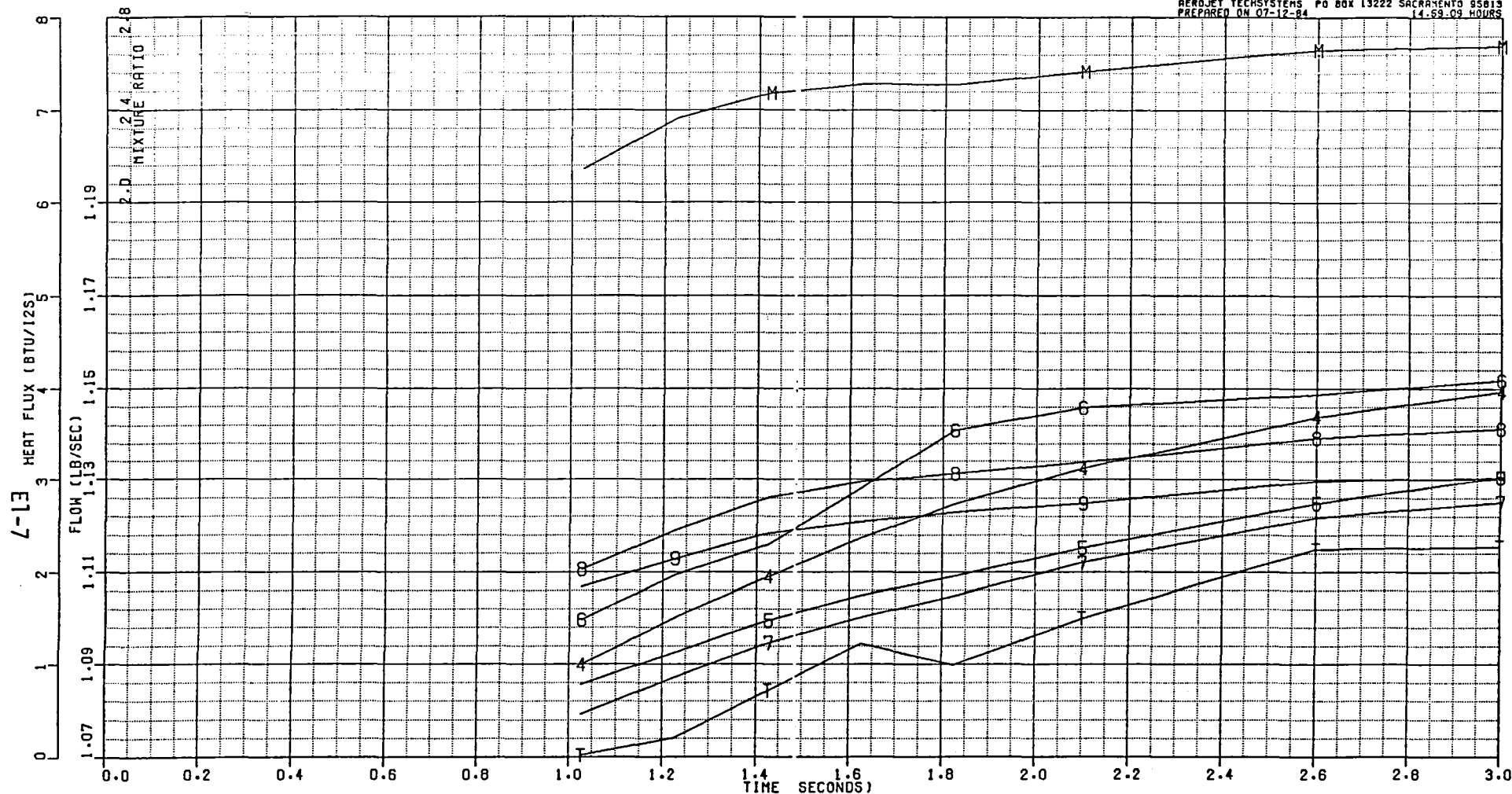


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|------------|---------|------------|---------|
| 1 Q/AN6 | BTU/I2S | 9 Q/AN12-3 | BTU/I2S |
| 2 Q/AN7 | BTU/I2S | T WTOT | LBS/SEC |
| 3 Q/AN8 | BTU/I2S | M MR | |
| 4 Q/AN9 | BTU/I2S | | |
| 5 Q/AN10 | BTU/I2S | | |
| 6 Q/AN11 | BTU/I2S | | |
| 7 Q/AN12-1 | BTU/I2S | | |
| 8 Q/AN12-2 | BTU/I2S | | |

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-202

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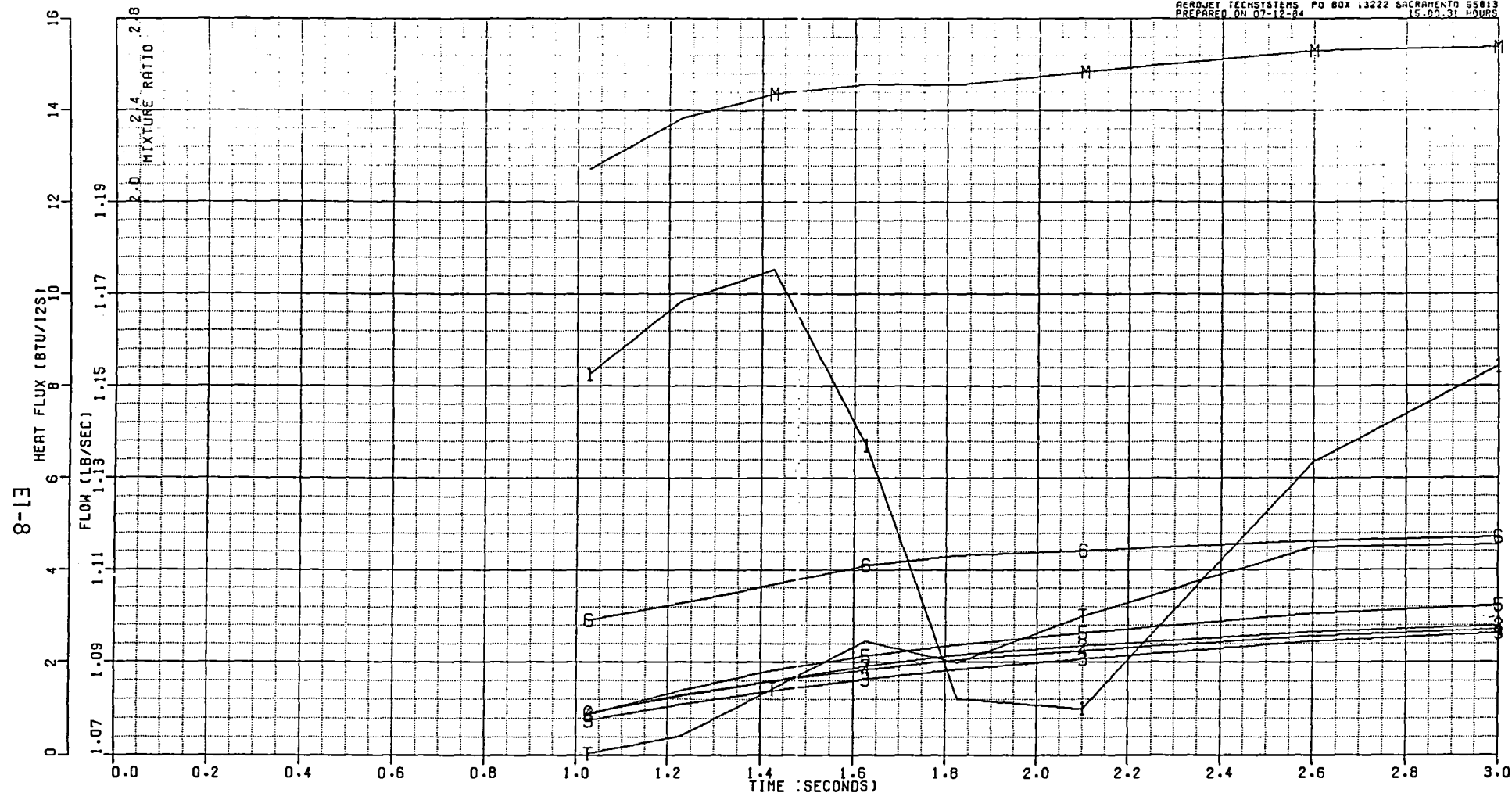
TEST DATE 03-19-84 1343 HOURS AVERAGED DATA



4 Q/A881.2 BTU/12S
 5 Q/A883 BTU/12S
 6 Q/A884-1 BTU/12S
 7 Q/A884-2 BTU/12S
 8 Q/A81-1 BTU/12S
 9 Q/A81-2 BTU/12S
 T WTOT LBS/SEC
 M MR

HEAT FLUX (Q/A) VS TIME BARREL DATA
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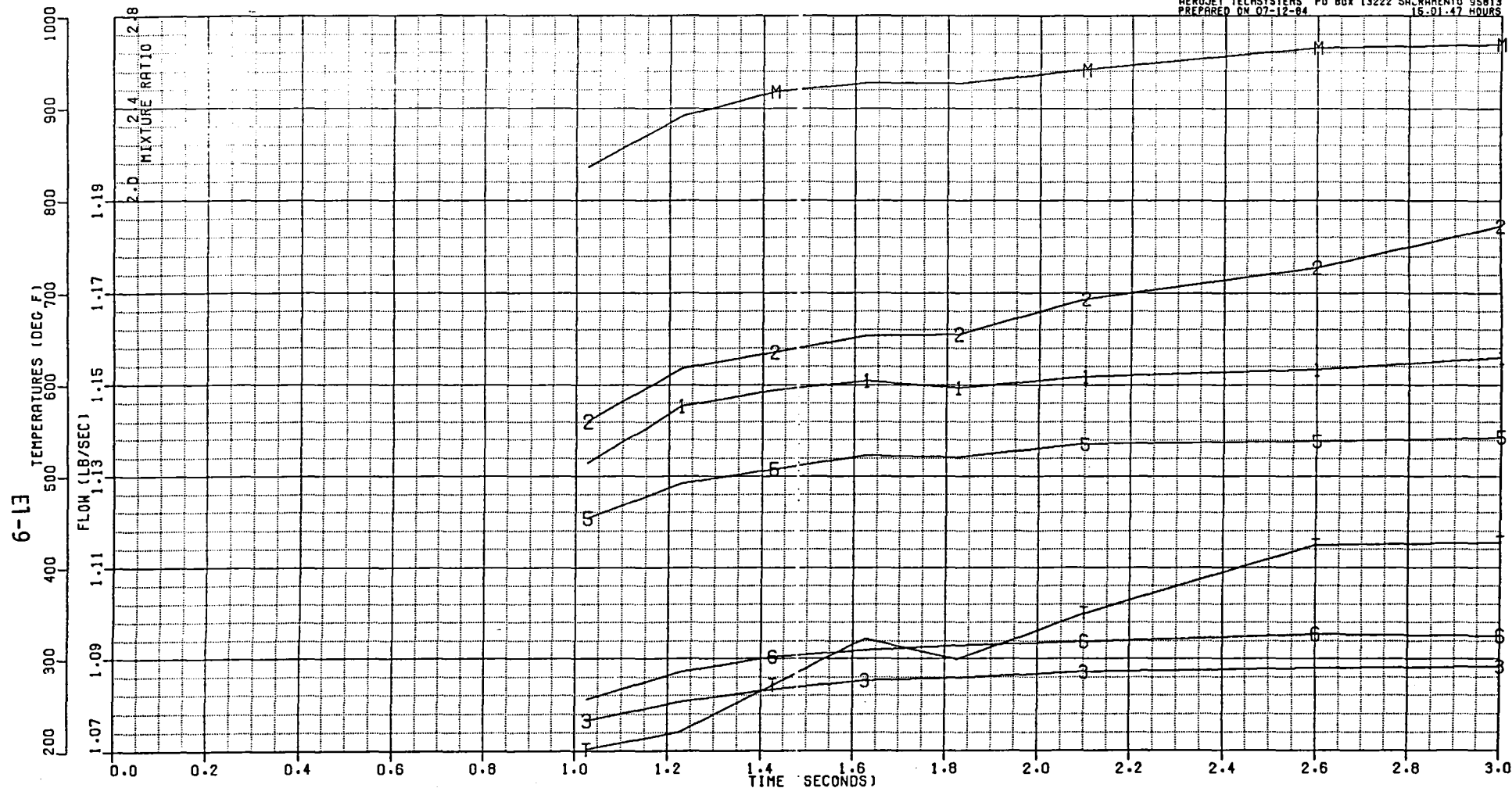


1 Q/ATRC BTU/12S
2 Q/A12B6 BTU/12S
3 Q/A12B5 BTU/12S
4 Q/A12B3.4 BTU/12S
5 Q/A12B1-2.2 BTU/12S
6 Q/A12B1-1 BTU/12S
T WTOT LBS/SEC
M MR

HEAT FLUX (Q/A) VS TIME
TEST NO. RLBL-936-202

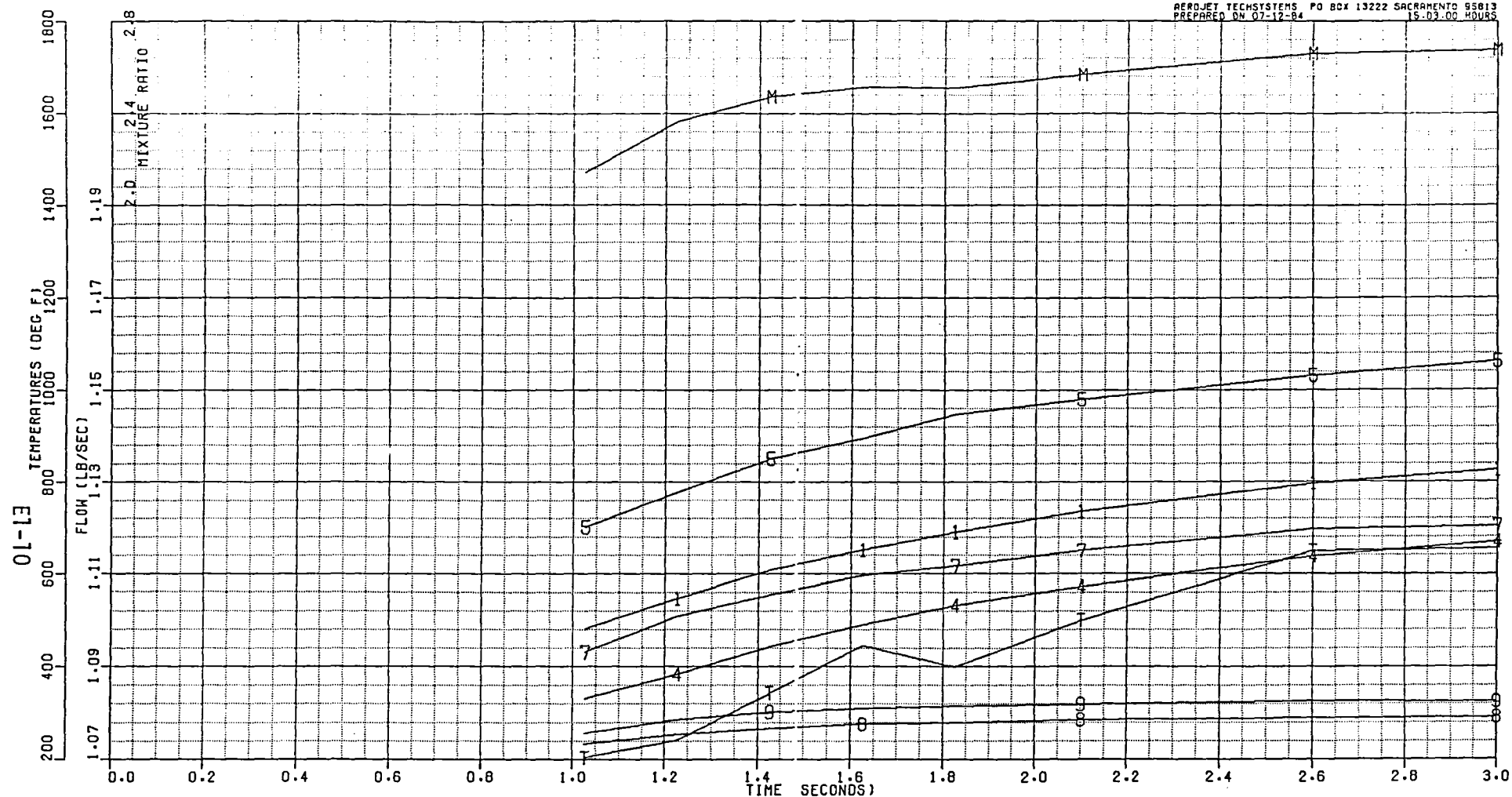
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GAS SIDE WALL TEMPERATURE VS TIME NOZZLE
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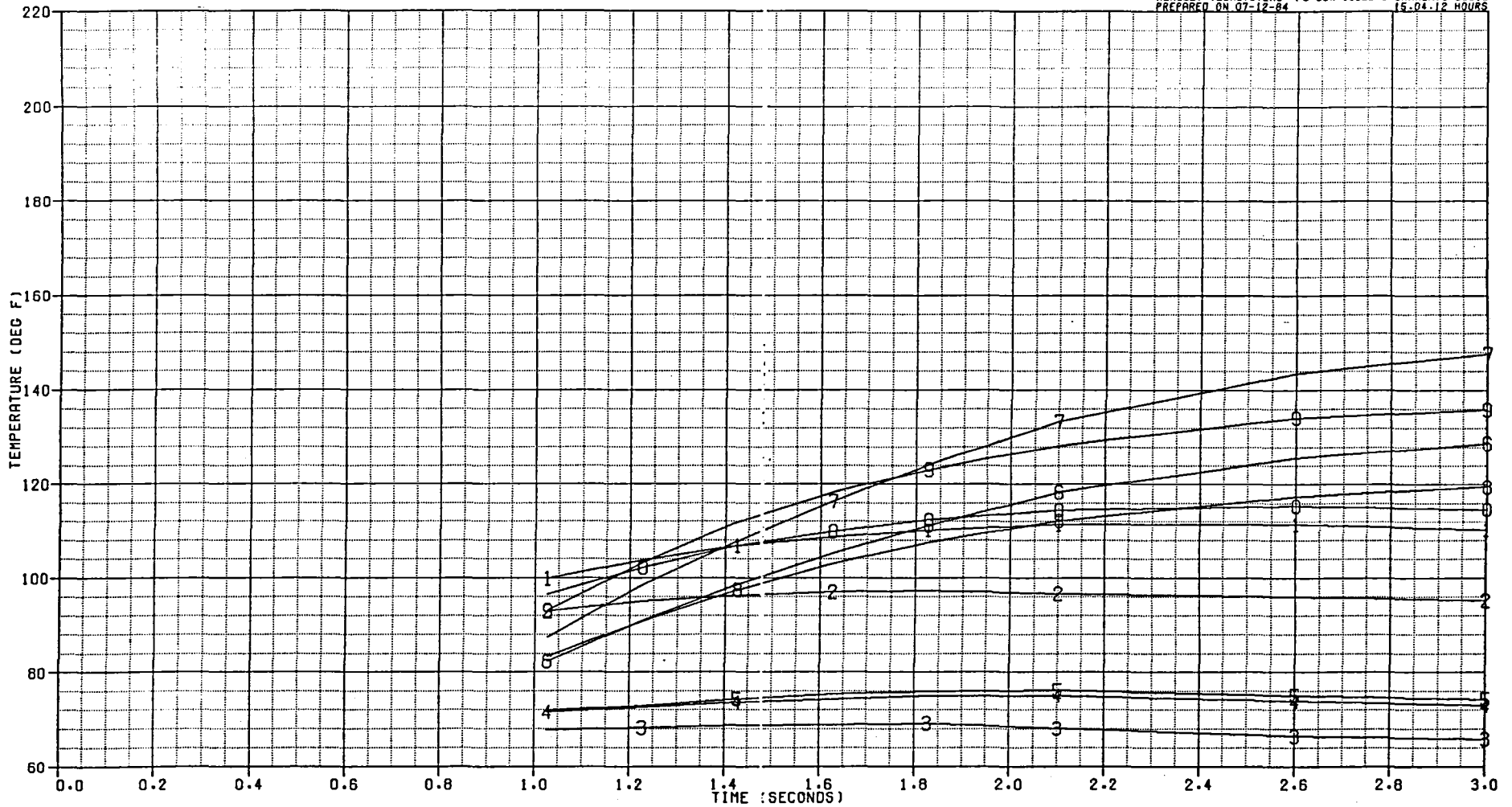


1 TC-7 DEG F
4 TC-10 DEG F
5 TC-12 DEG F
7 TC-13 DEG F
8 TC-3 DEG F
9 TC-6 DEG F
T WTOT LBS/SEC
M MR

GAS SIDE WALL TEMPERATURE VS TIME BARREL
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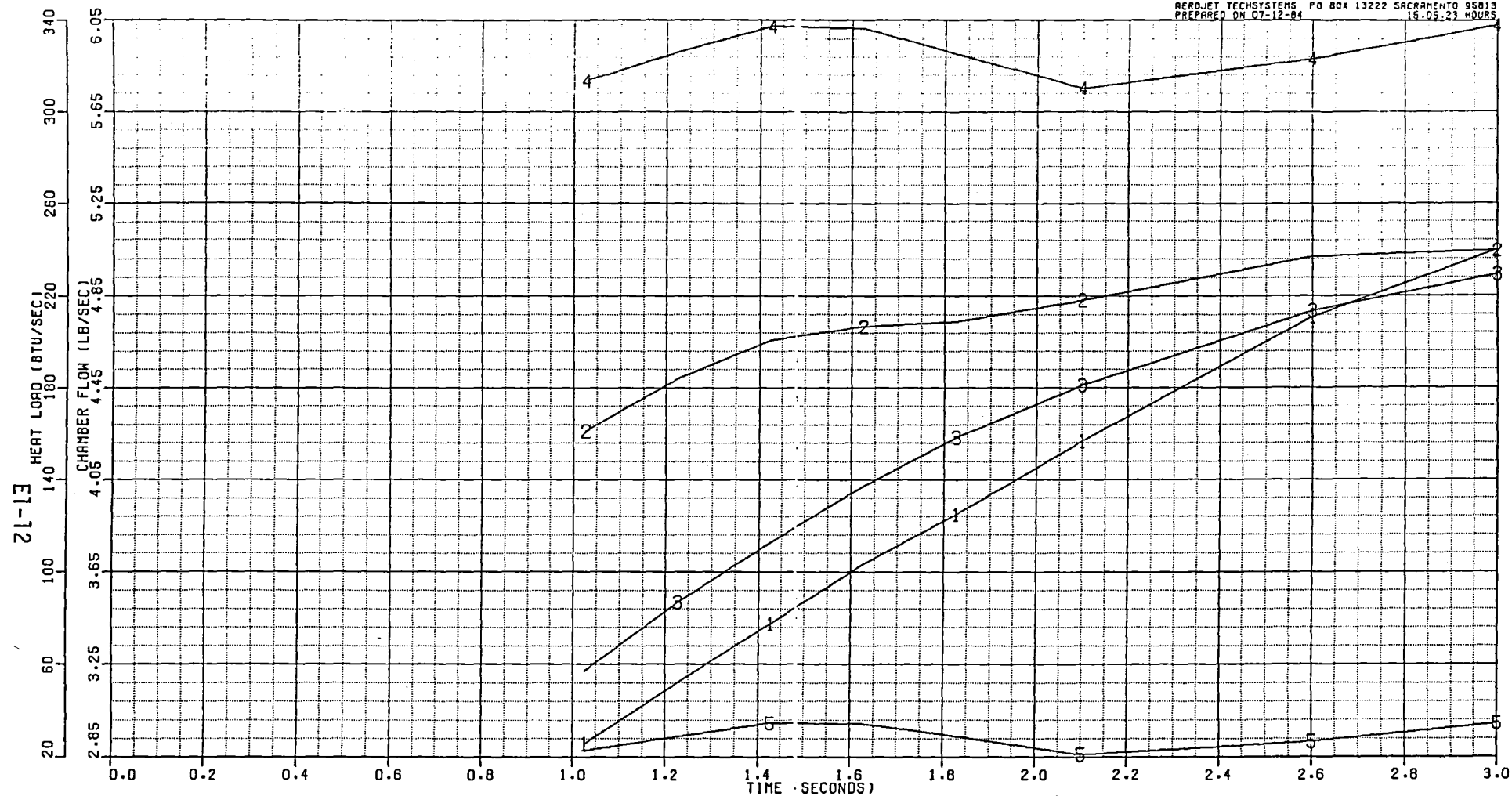
11-13



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1 TWC-7	DEG F	9 TWC-31	DEG F
2 TWC-10	DEG F		
3 TWC-21	DEG F		
4 TWC-22	DEG F		
5 TWC-23	DEG F		
6 TWC-26	DEG F		
7 TWC-27	DEG F		

COOLANT OUTLET TEMPERATURE VS TIME NO 1
 TEST NO. RLBL-936-202

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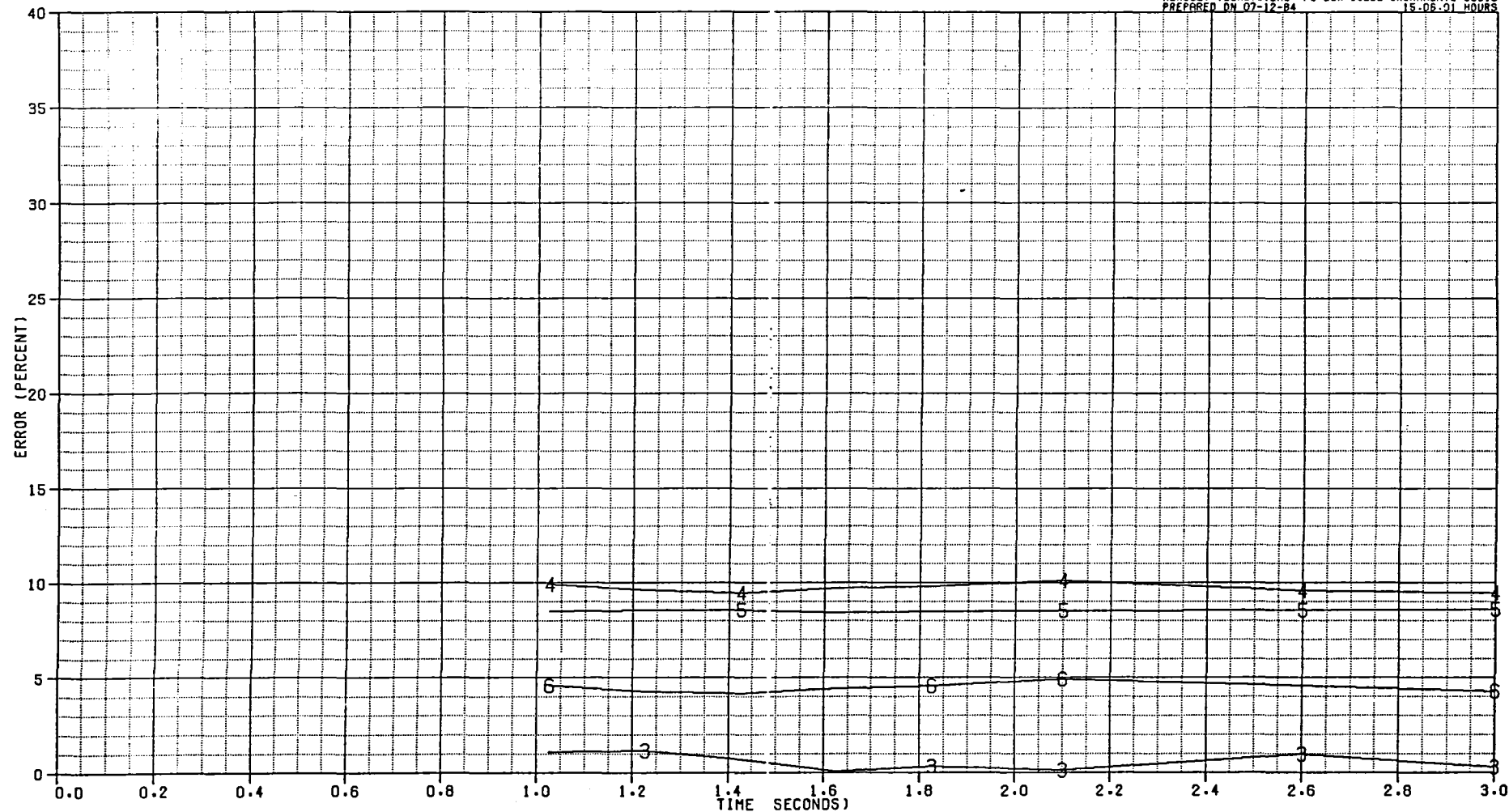


1 QH BTU/SEC
2 QNT BTU/SEC
3 Q8BT BTU/SEC
4 WW1 LBS/SEC
5 WW2 LBS/SEC

CHAMBER FLOW AND HEAT LOAD VS TIME
TEST NO. RLBL-936-202

TEST DATE 03-19-84 1343 HOURS AVERAGED DATA

E1-13

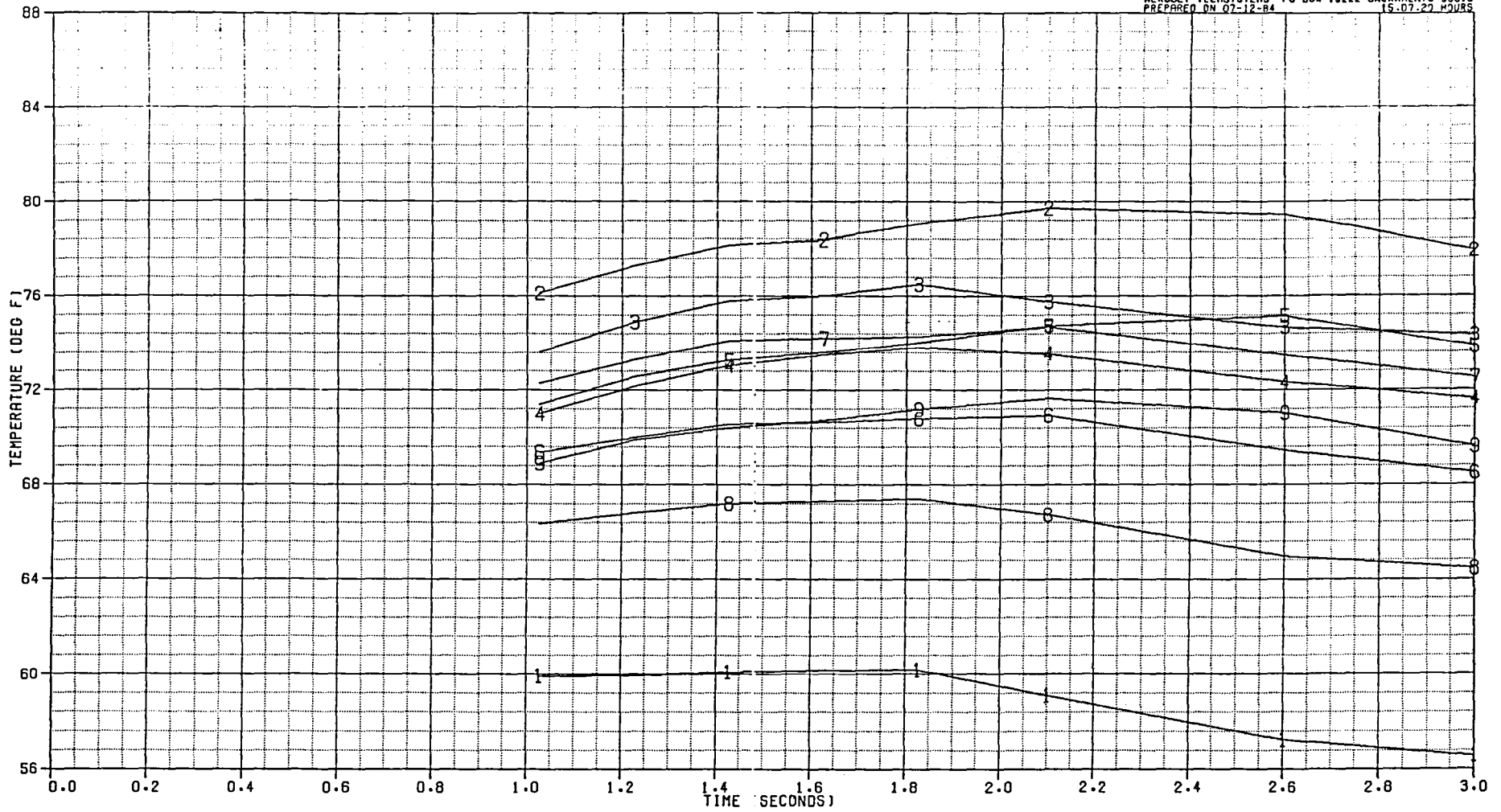


1 QERM PERCENT
 2 WERNT PERCENT
 3 WER8BT PERCENT
 4 WER12B1 PERCENT
 5 WER12B3 PERCENT
 6 WER12B5 PERCENT
 7 WERN10 PERCENT

CHAMBER FLOW + HEAT LOAD ERRORS VS TIME
 TEST NO. RLBL-936-202

TEST DATE 03-19-84 1343 HOURS AVERAGED DATA

E1-14

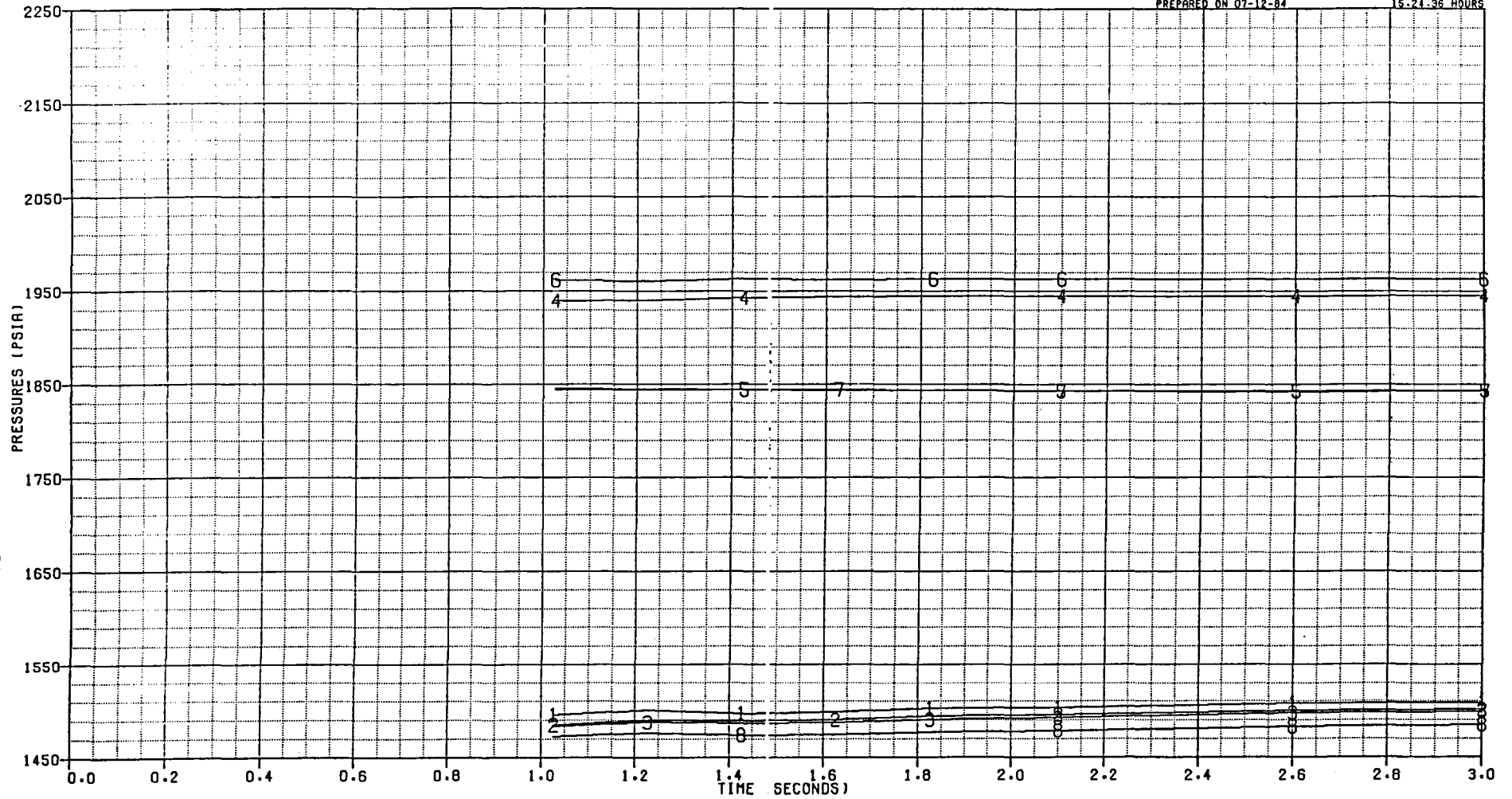


1 TWC-1 DEG F
 2 TWC-13 DEG F
 3 TWC-14 DEG F
 4 TWC-15 DEG F
 5 TWC-16 DEG F
 6 TWC-17 DEG F
 7 TWC-18 DEG F
 8 TWC-19 DEG F
 9 TWC-20 DEG F

COOLANT OUTLET TEMPERATURE VS TIME NO 2
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TEST DATE 03-19-84 1343 HOURS AVERAGED DATA

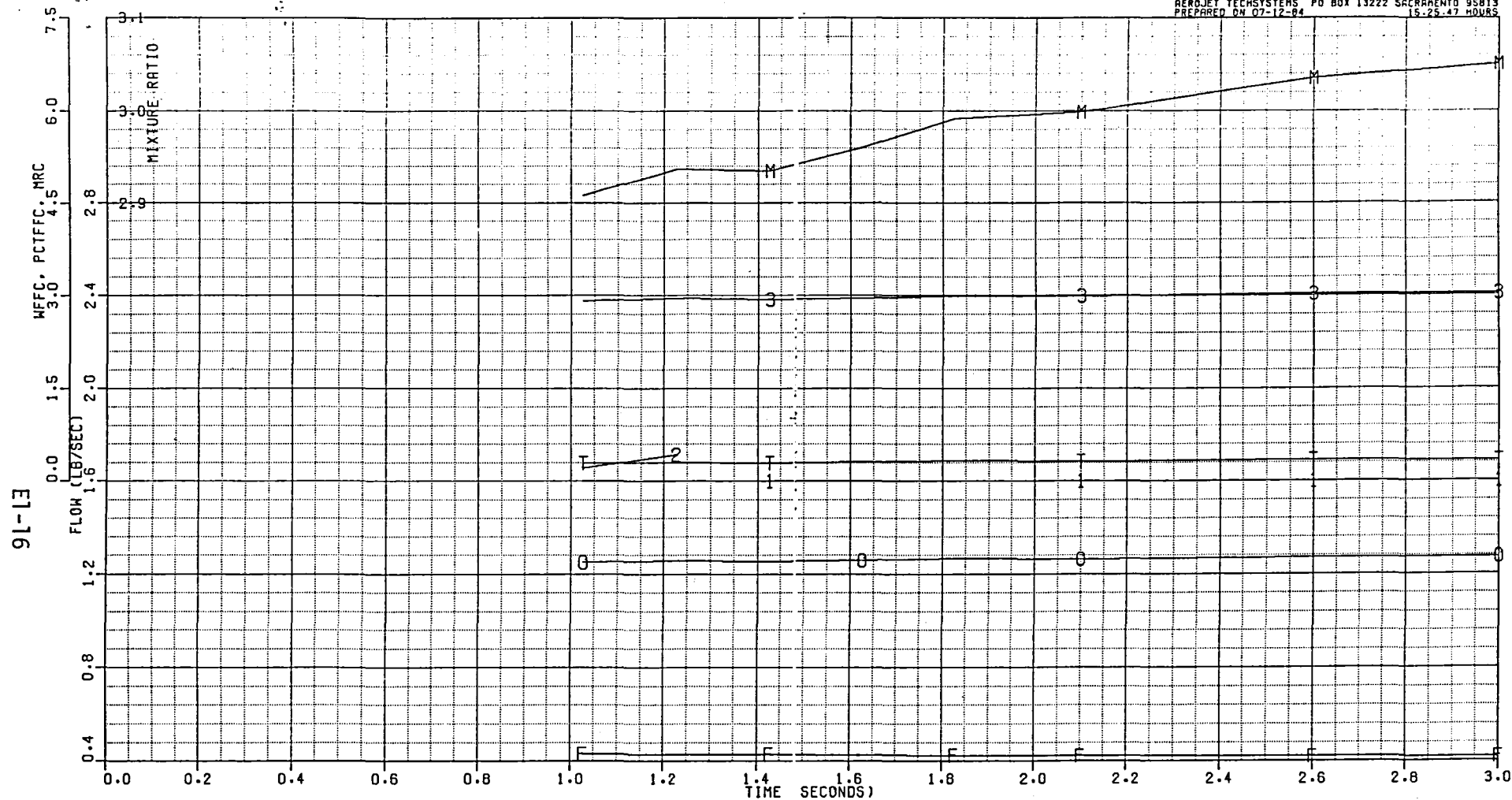
EI-15



- | | | |
|---|-------|------|
| 1 | PC-1 | PSIA |
| 2 | POJI | PSIA |
| 3 | PFJI | PSIA |
| 4 | POJ | PSIA |
| 5 | PFJ | PSIA |
| 6 | POT | PSIA |
| 7 | PFT | PSIA |
| 8 | PFC-1 | PSIA |

INJECTOR PRESSURES VS TIME
TEST NO. RLBL-936-203

TEST DATE 03-19-84 1418 HOURS AVERAGED DATA

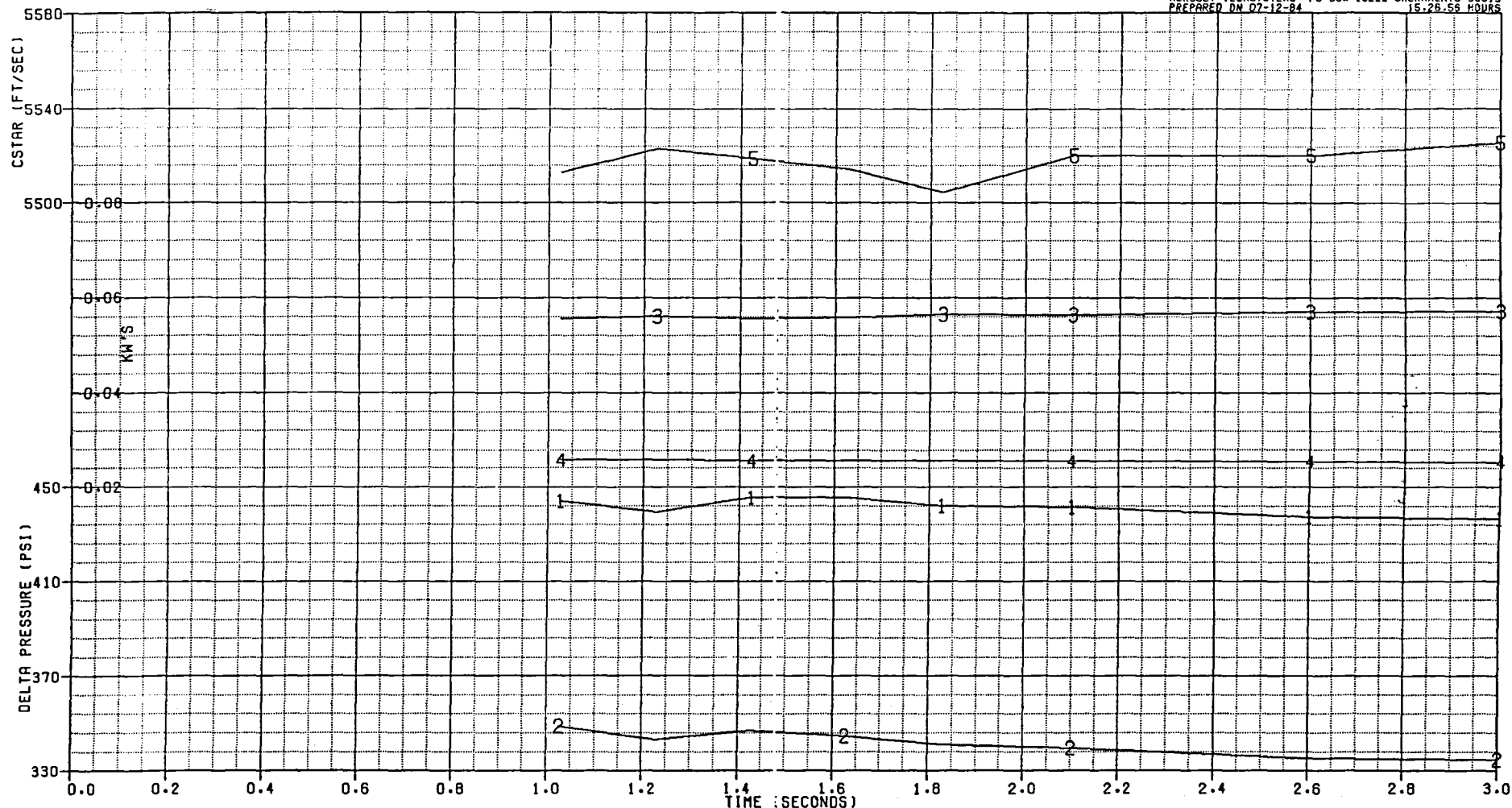


F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR
 1 WFFC LBS/SEC
 2 PCTFFC PERCENT
 3 MRC

INJECTOR FLOW VS TIME
 TEST NO. RLBL-936-203

TEST DATE 03-19-84 1418 HOURS AVERAGED DATA

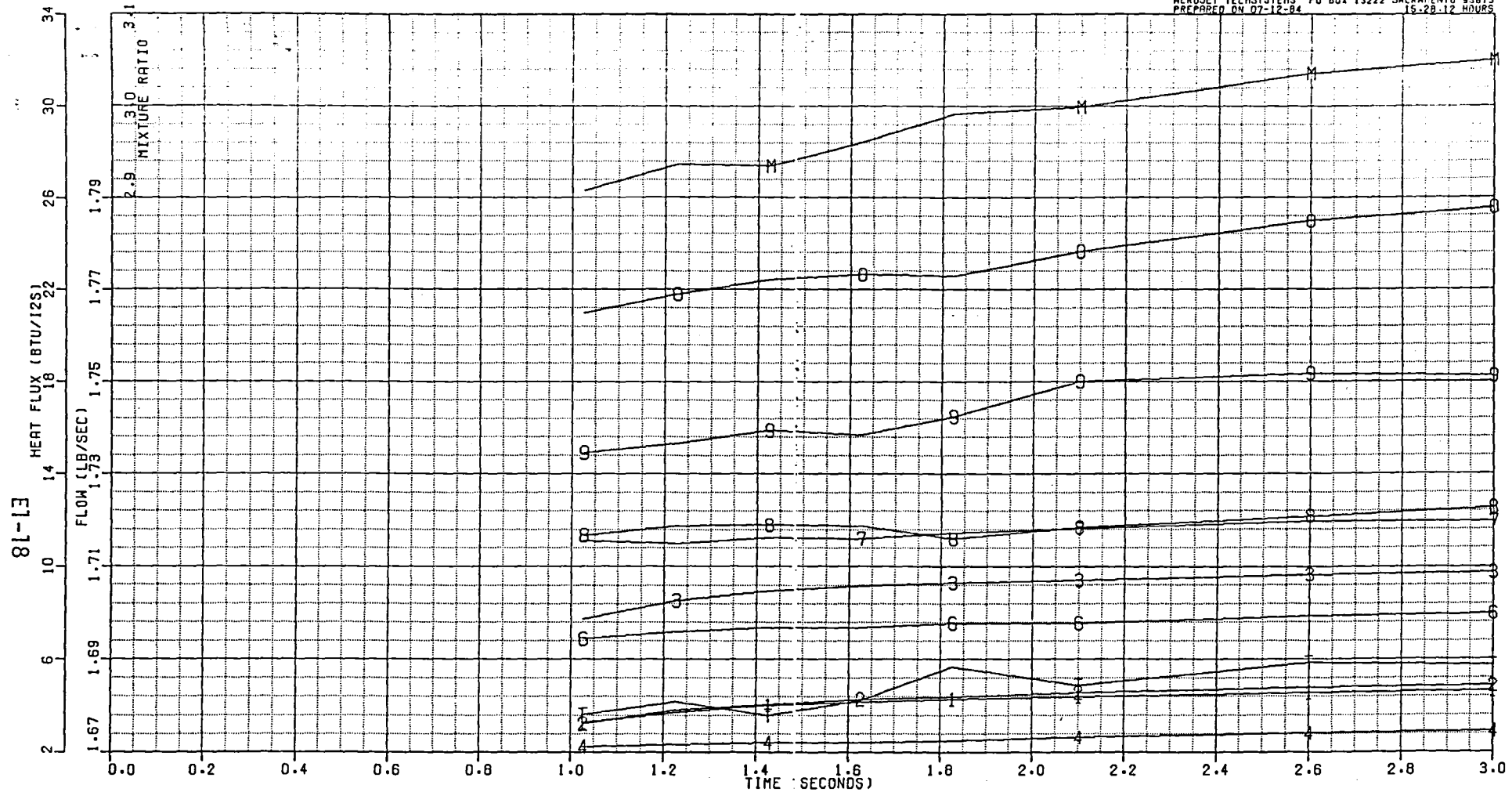
E1-17



1 DPQJ PSI
 2 DPFJ PSI
 3 KWQJ
 4 KWFJ
 5 CSTRMC FT/SEC

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLBL-936-203

TEST DATE 03-19-84 1418 HOURS AVERAGED DATA

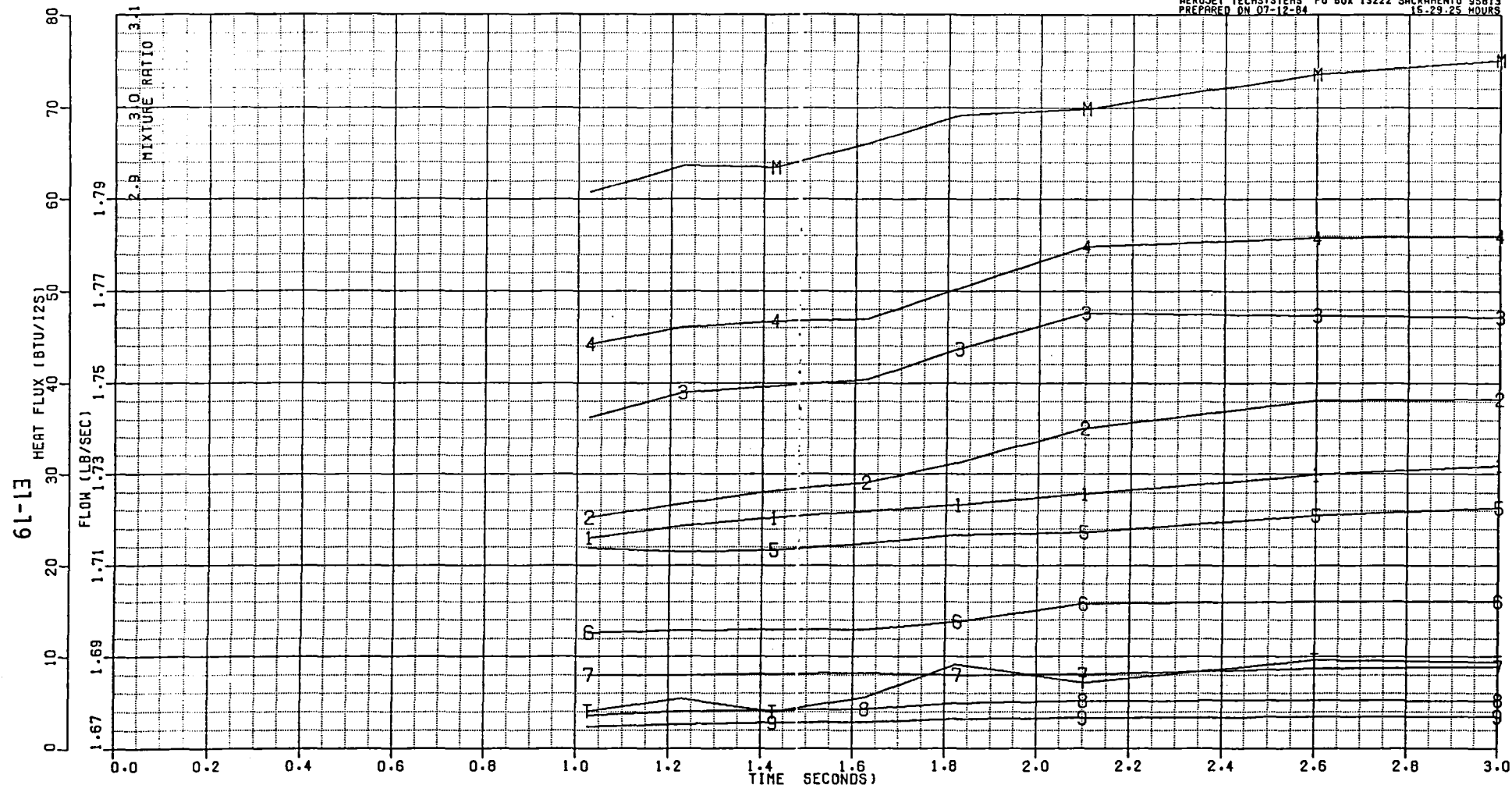


- | | | | |
|--------------|---------|---------|---------|
| 1 Q/AN1-2 | BTU/I2S | Q Q/AN5 | BTU/I2S |
| 2 Q/AN1-3 | BTU/I2S | T WTOT | LBS/SEC |
| 3 Q/AN2-1 | BTU/I2S | M MR | |
| 4 Q/AN2-2.-3 | BTU/I2S | | |
| 6 Q/AN3-1 | BTU/I2S | | |
| 7 Q/AN3-2 | BTU/I2S | | |
| 8 Q/AN3-3 | BTU/I2S | | |
| 9 Q/AN4 | BTU/I2S | | |

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-203

NOZZLE DATA

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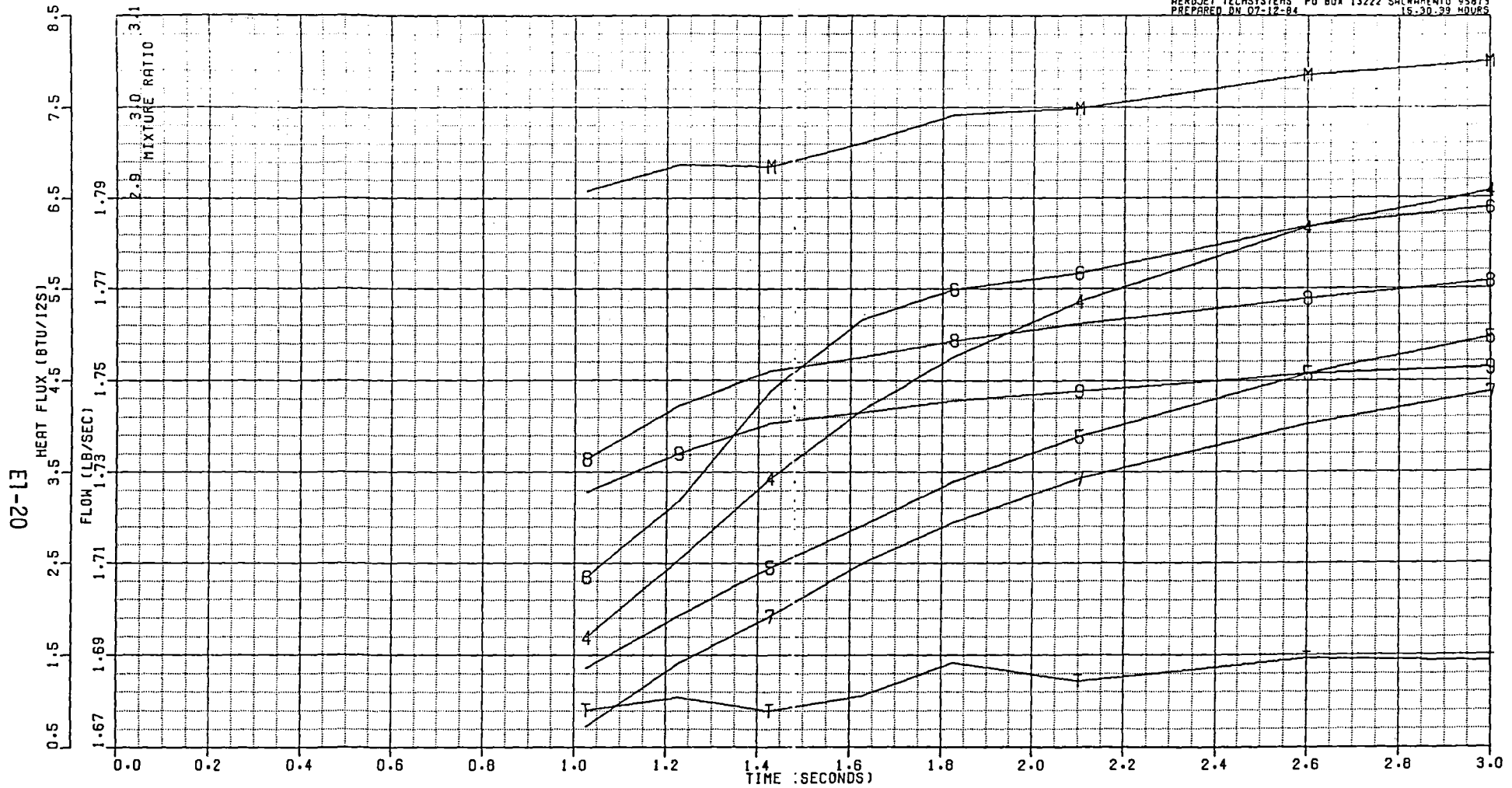


1 Q/AN6	BTU/12S	9 Q/AN12-3	BTU/12S
2 Q/AN7	BTU/12S	T WTOT	LBS/SEC
3 Q/AN8	BTU/12S	M MR	
4 Q/AN9	BTU/12S		
5 Q/AN10	BTU/12S		
6 Q/AN11	BTU/12S		
7 Q/AN12-1	BTU/12S		
8 Q/AN12-2	BTU/12S		

HEAT FLUX (Q/A) VS TIME
TEST NO. RLBL-936-203

NOZZLE DATA

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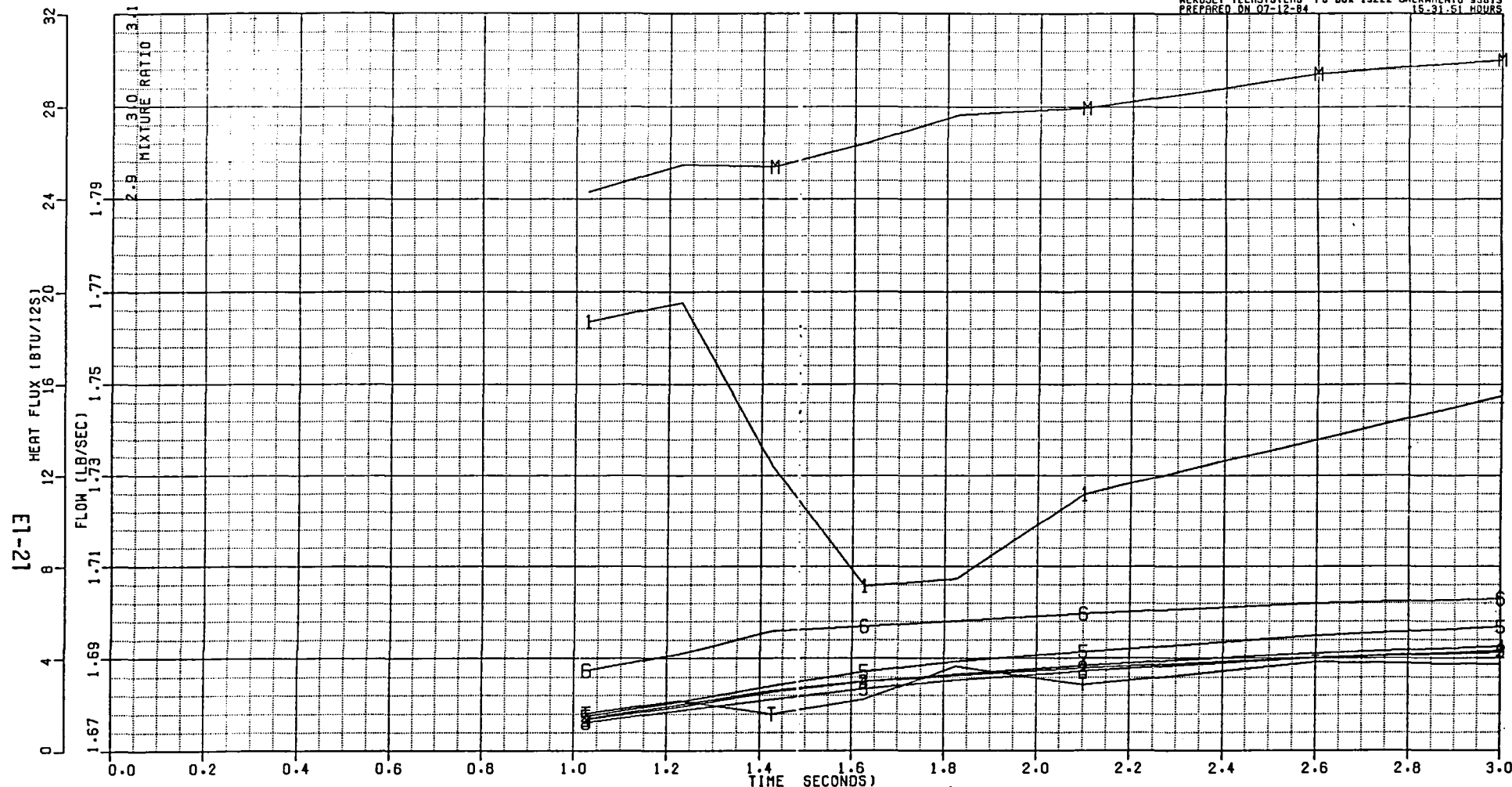


4 Q/A8B1.2 BTU/12S
 5 Q/A8B3 BTU/12S
 6 Q/A8B4-1 BTU/12S
 7 Q/A8B4-2 BTU/12S
 8 Q/AN1-1 BTU/12S
 9 Q/AN1-2 BTU/12S
 T WTOT LBS/SEC
 M MR

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-203

BARREL DATA

TEST DATE 03-19-84 1418 HOURS AVERAGED DATA

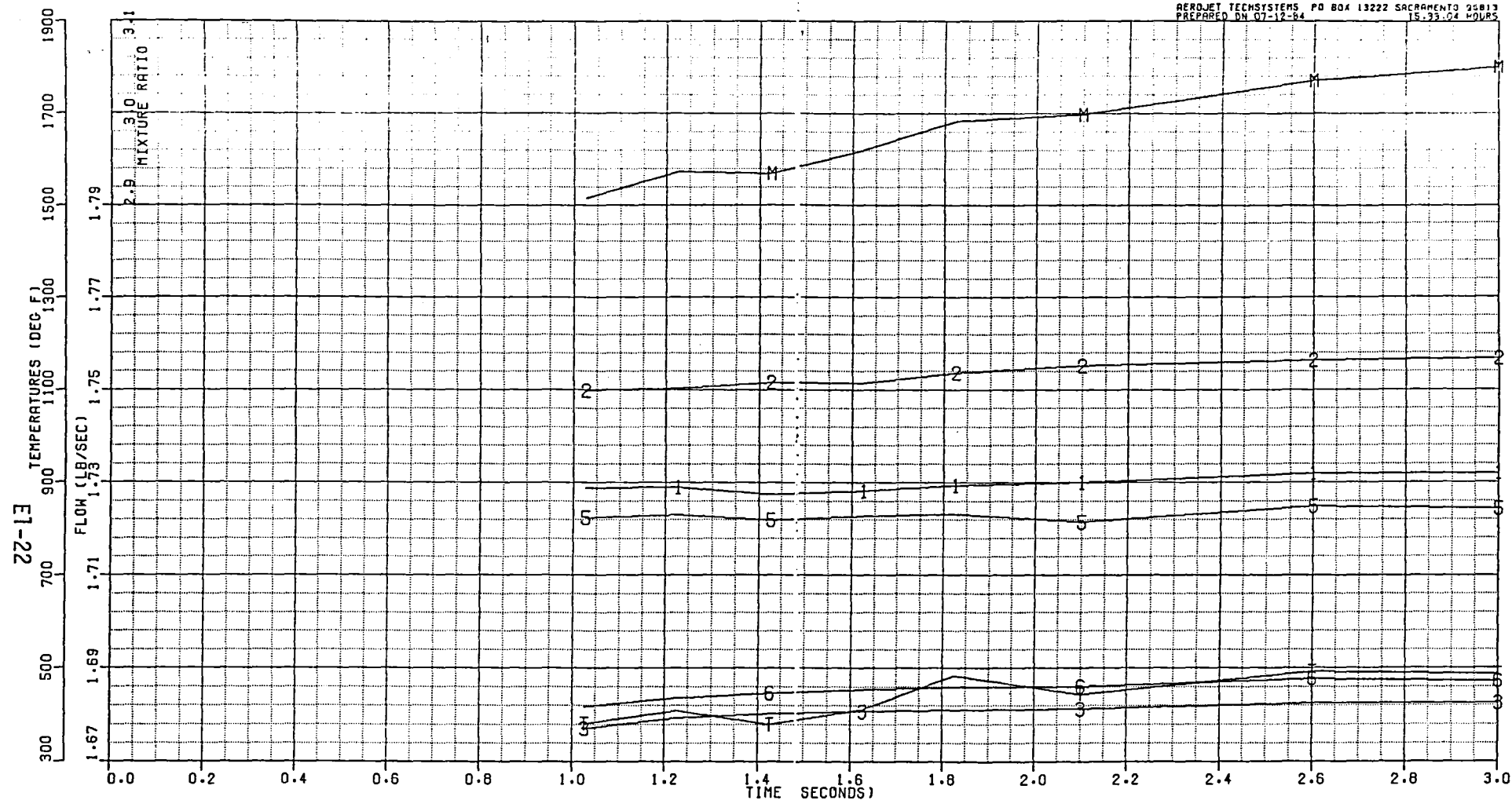


1 Q/ATRC BTU/12S
 2 Q/A12B6 BTU/12S
 3 Q/A12B5 BTU/12S
 4 Q/A12B3.4 BTU/12S
 5 Q/A12B1-2.2 BTU/12S
 6 Q/A12B1-1 BTU/12S
 T WTOT LBS/SEC
 M MR

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-203

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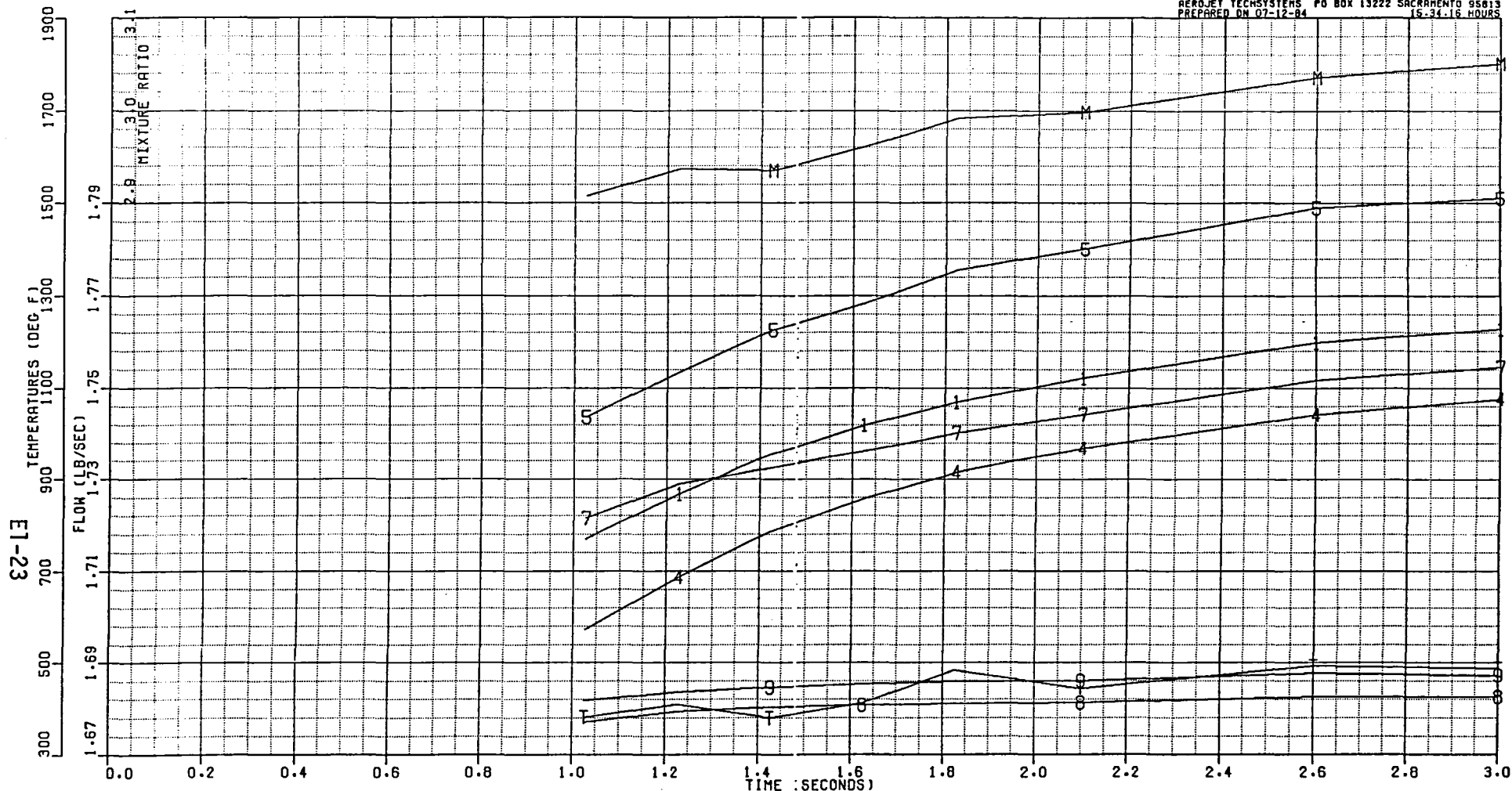
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1 TC-1 DEG F
2 TC-2 DEG F
3 TC-3 DEG F
4 TC-4 DEG F
5 TC-5 DEG F
6 TC-6 DEG F
T WTOT LBS/SEC
M MR

GAS SIDE WALL TEMPERATURE VS TIME NOZZLE
TEST NO. RLBL-936-203

TEST DATE 03-19-84 1418 HOURS AVERAGED DATA

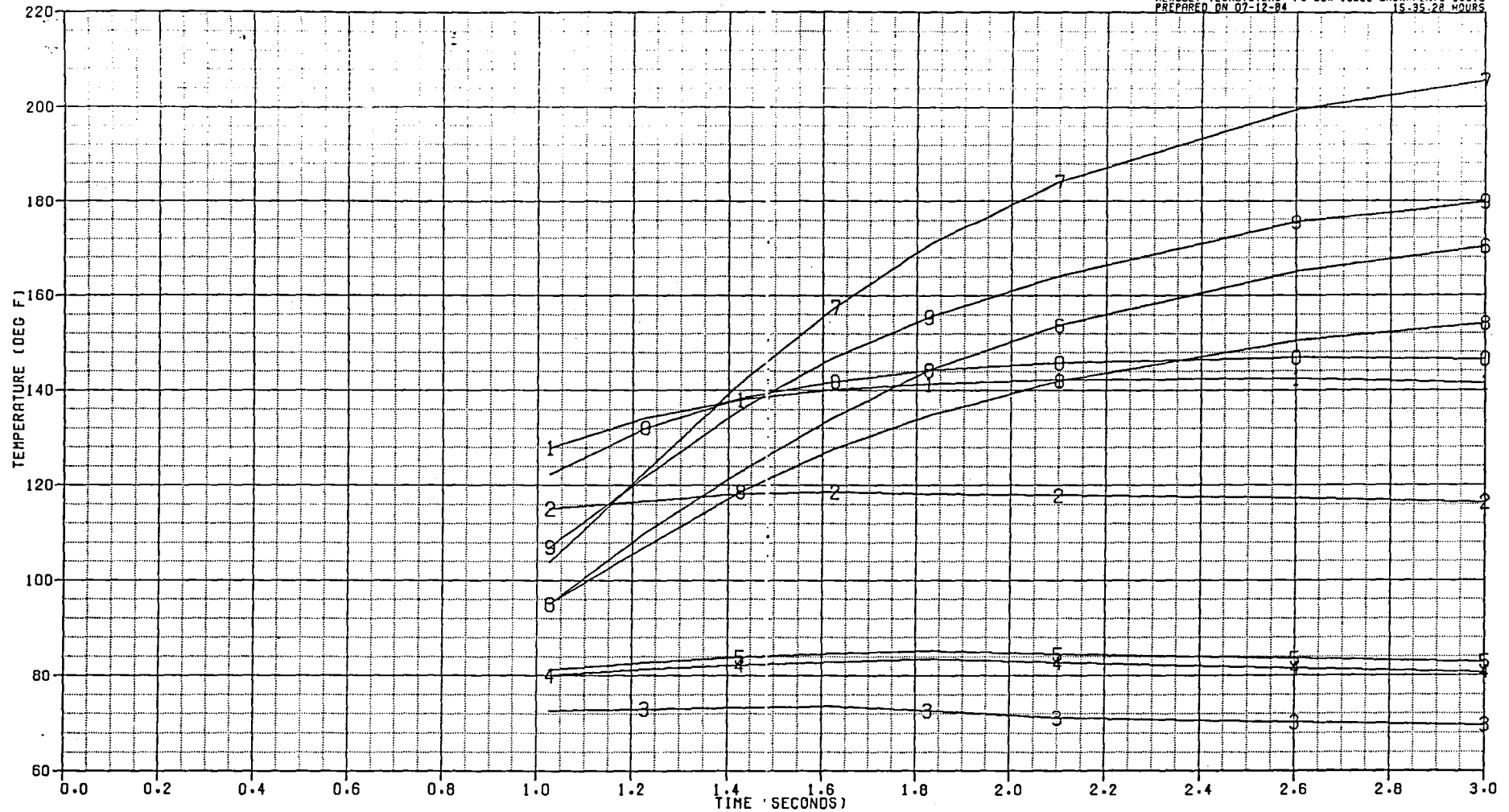


1 TC-7 DEG F
 4 TC-10 DEG F
 5 TC-12 DEG F
 7 TC-13 DEG F
 8 TC-3 DEG F
 9 TC-6 DEG F
 T WTOT LBS/SEC
 M MR

GAS SIDE WALL TEMPERATURE VS TIME BARREL
 TEST NO. RLBL-936-203

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E1-24

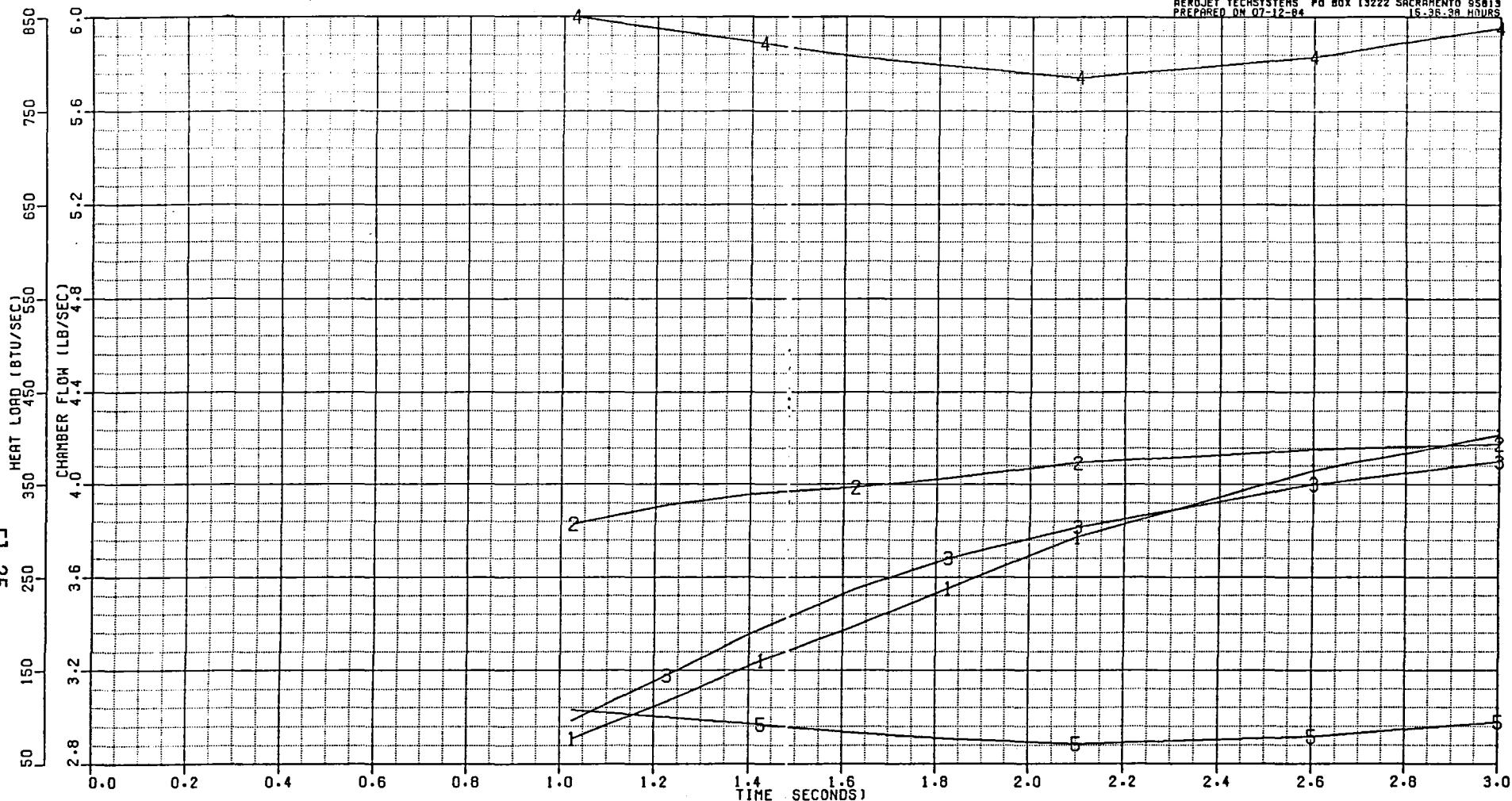


0 TWC-6	DEG F	8 TWC-28	DEG F
1 TWC-7	DEG F	9 TWC-31	DEG F
2 TWC-10	DEG F		
3 TWC-21	DEG F		
4 TWC-22	DEG F		
5 TWC-23	DEG F		
6 TWC-26	DEG F		
7 TWC-27	DEG F		

COOLANT OUTLET TEMPERATURE VS TIME NO 1
 TEST NO. RLBL-936-203

TEST DATE 03-19-84 1418 HOURS AVERAGED DATA

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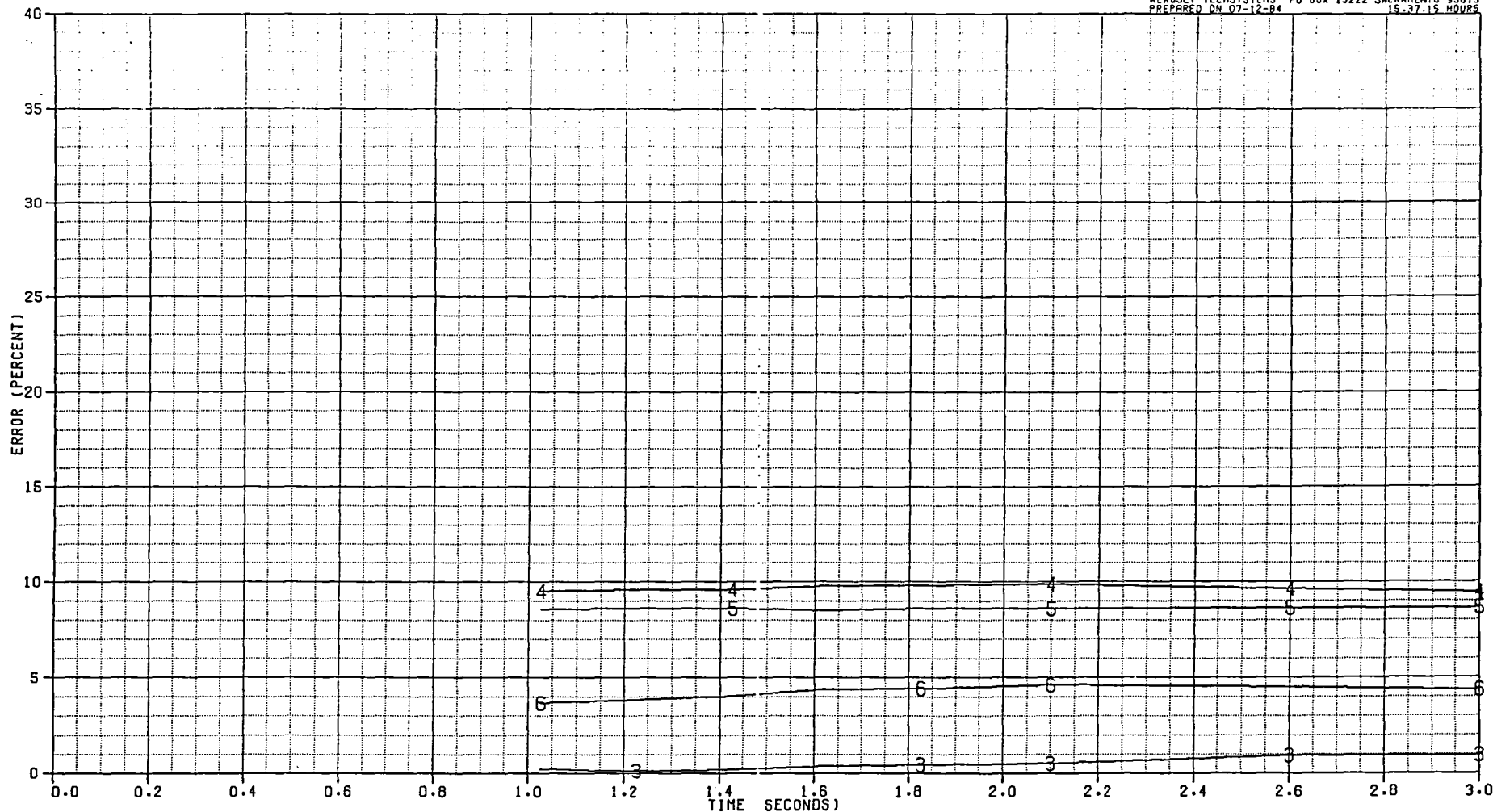


1 QNT BTU/SEC
 2 QNT BTU/SEC
 3 Q8BT BTU/SEC
 4 HW1 LBS/SEC
 5 HW2 LBS/SEC

CHAMBER FLOW AND HEAT LOAD VS TIME
 TEST NO. RLBL-936-203

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E1-26

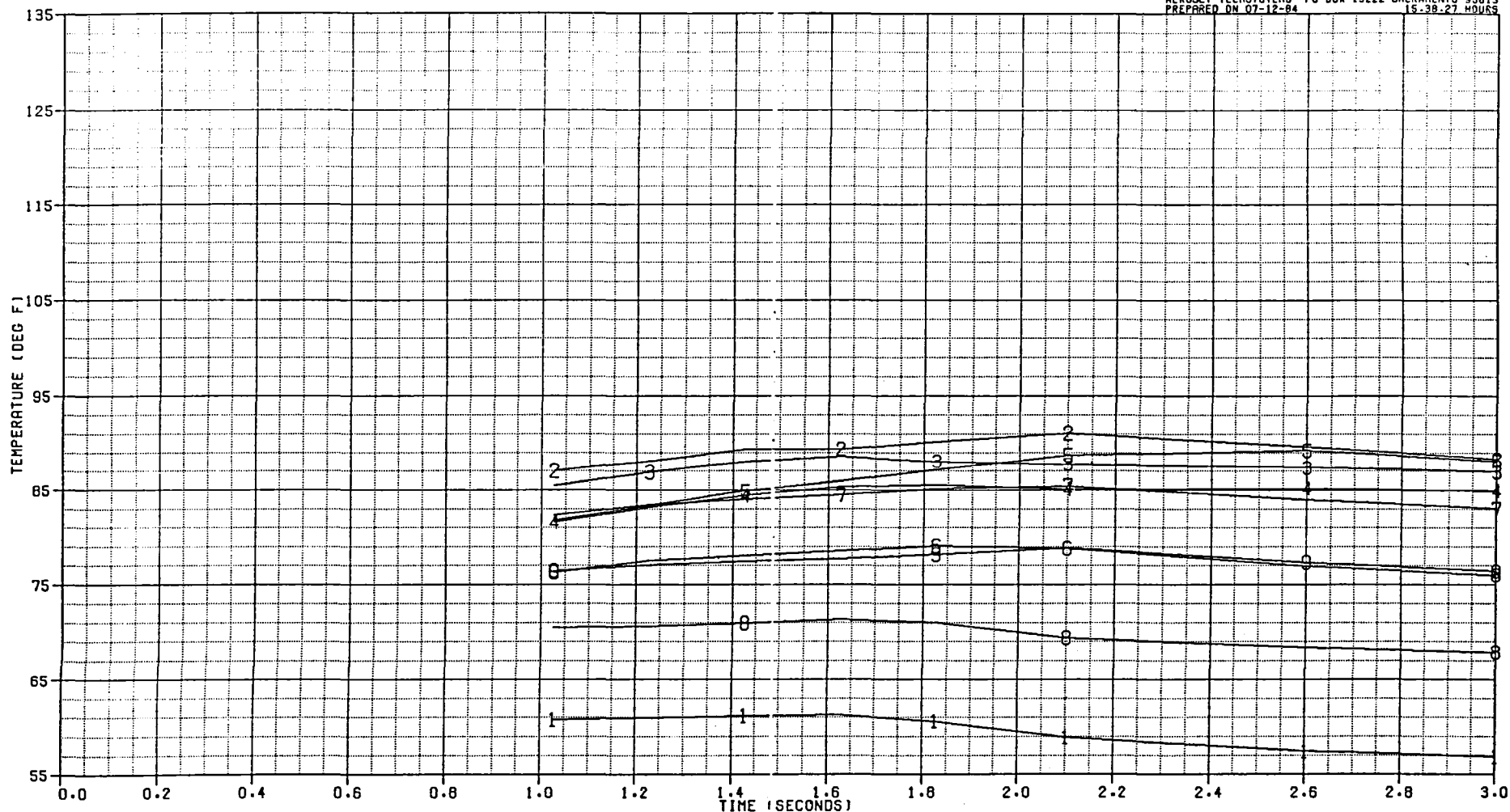


1 QERM	PERCENT
2 WERNT	PERCENT
3 WER8BT	PERCENT
4 WER12B1	PERCENT
5 WER12B3	PERCENT
6 WER12B5	PERCENT
7 WERN10	PERCENT

CHAMBER FLOW + HEAT LOAD ERRORS VS TIME
 TEST NO. RLBL-936-203

TEST DATE 03-19-84 1418 HOURS AVERAGED DATA

E1-27

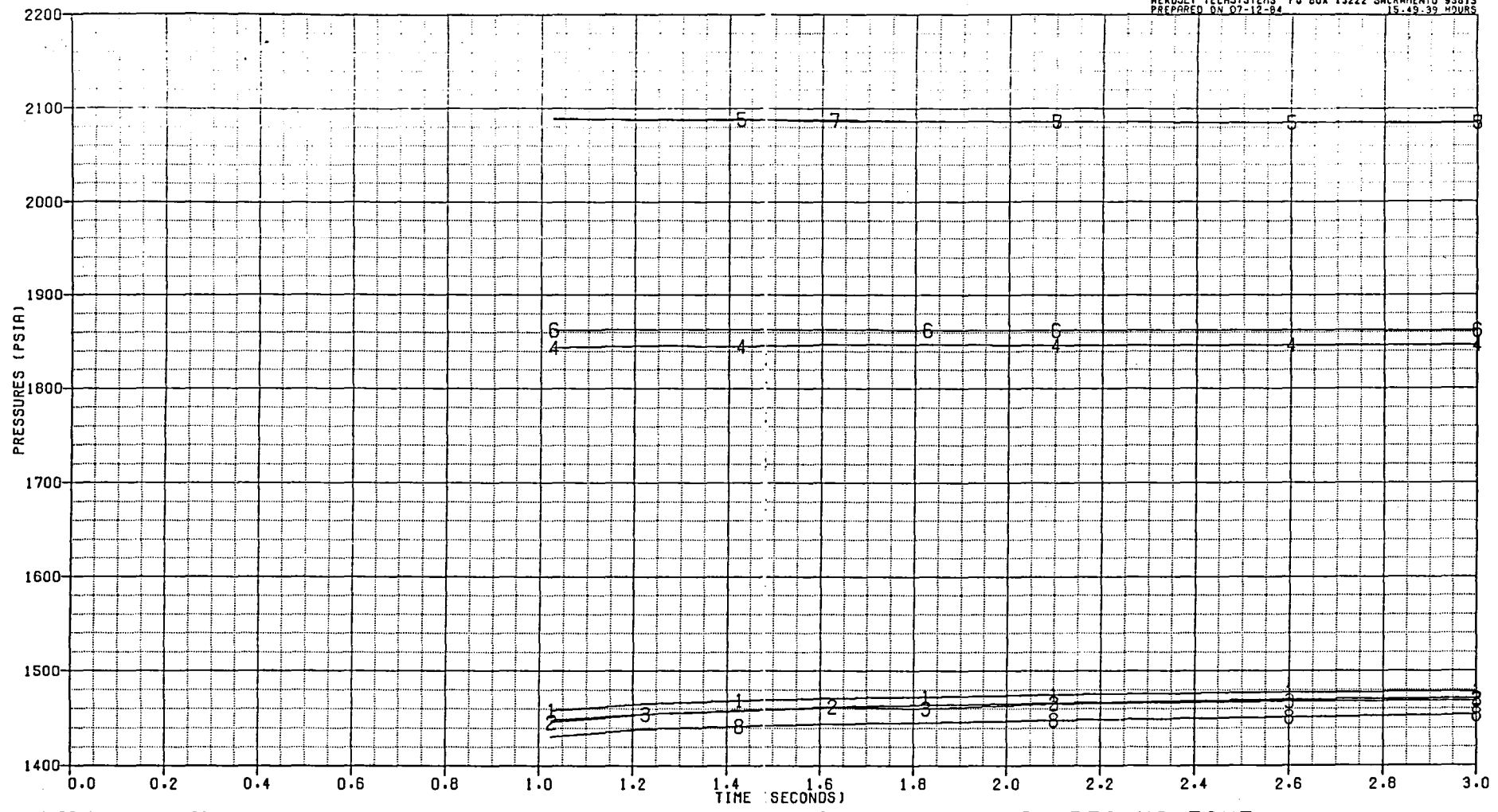


1 TWC-1	DEG F	9 TWC-20	DEG F
2 TWC-13	DEG F		
3 TWC-14	DEG F		
4 TWC-15	DEG F		
5 TWC-16	DEG F		
6 TWC-17	DEG F		
7 TWC-18	DEG F		
8 TWC-19	DEG F		

COOLANT OUTLET TEMPERATURE VS TIME NO 2
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TEST DATE 03-19-84 1418 HOURS AVERAGED DATA

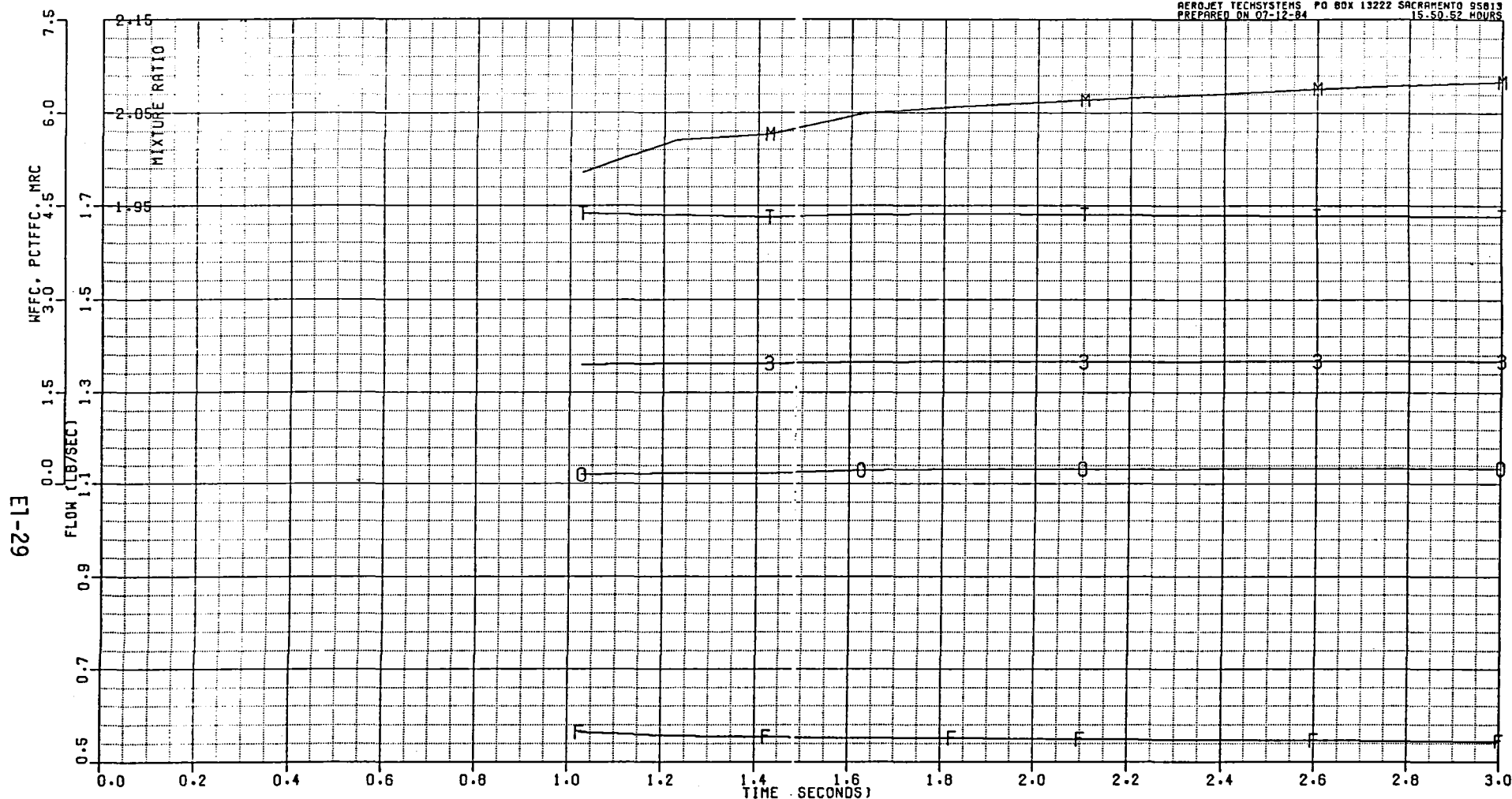
E1-28



- 1 PC-1 PSIA
- 2 POJI PSIA
- 3 PFJI PSIA
- 4 POJ PSIA
- 5 PFJ PSIA
- 6 POT PSIA
- 7 PFT PSIA
- 8 PFC-1 PSIA

INJECTOR PRESSURES VS TIME
TEST NO. RLBL-936-204

- TEST DATE 03-19-84 1514 HOURS AVERAGED DATA

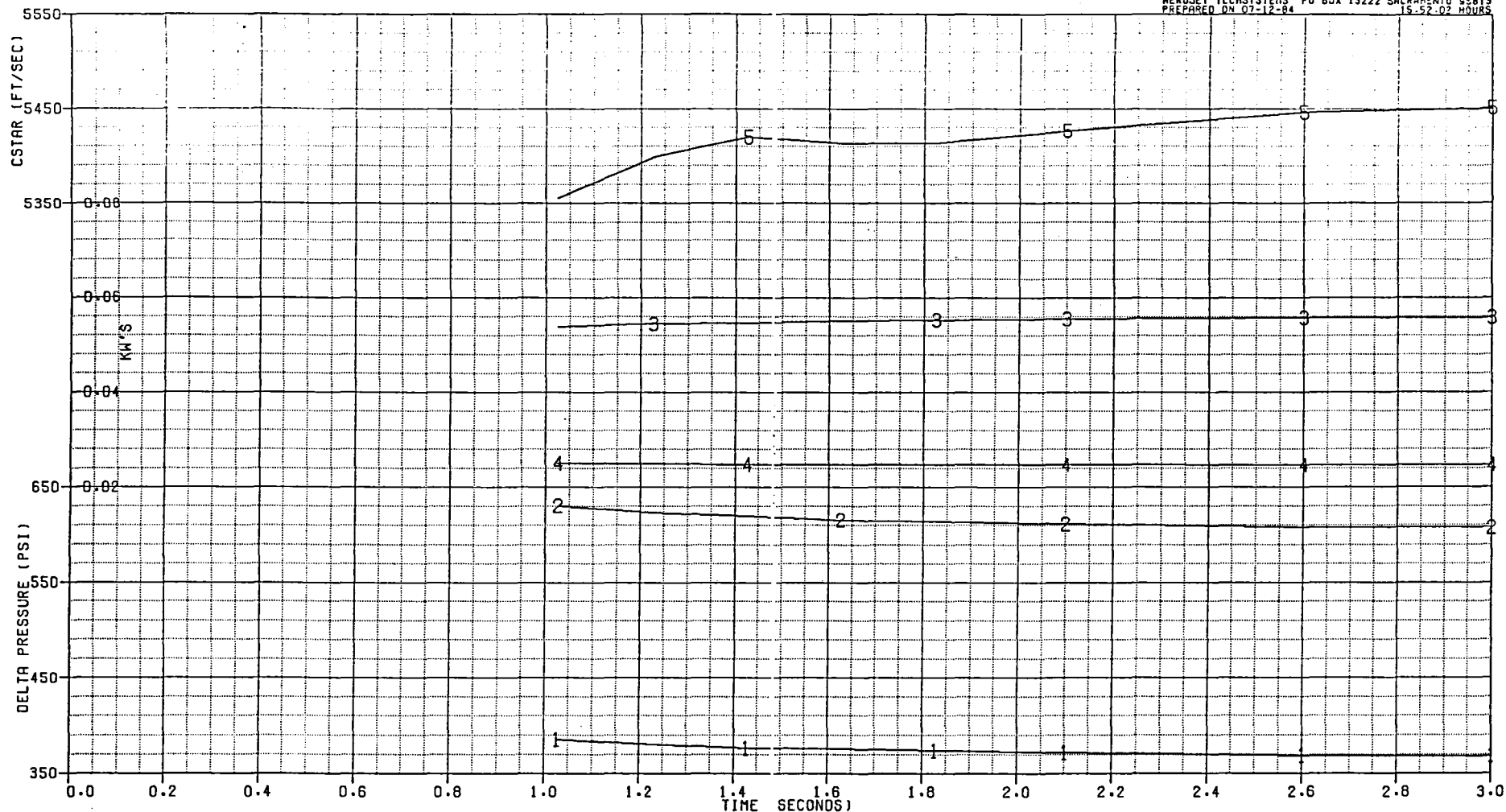


F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR
 1 WFFC LBS/SEC
 2 PCTFFC PERCENT
 3 MRC

INJECTOR FLOW VS TIME TEST NO. RLBL-936-204

TEST DATE 03-19-84 1514 HOURS AVERAGED DATA

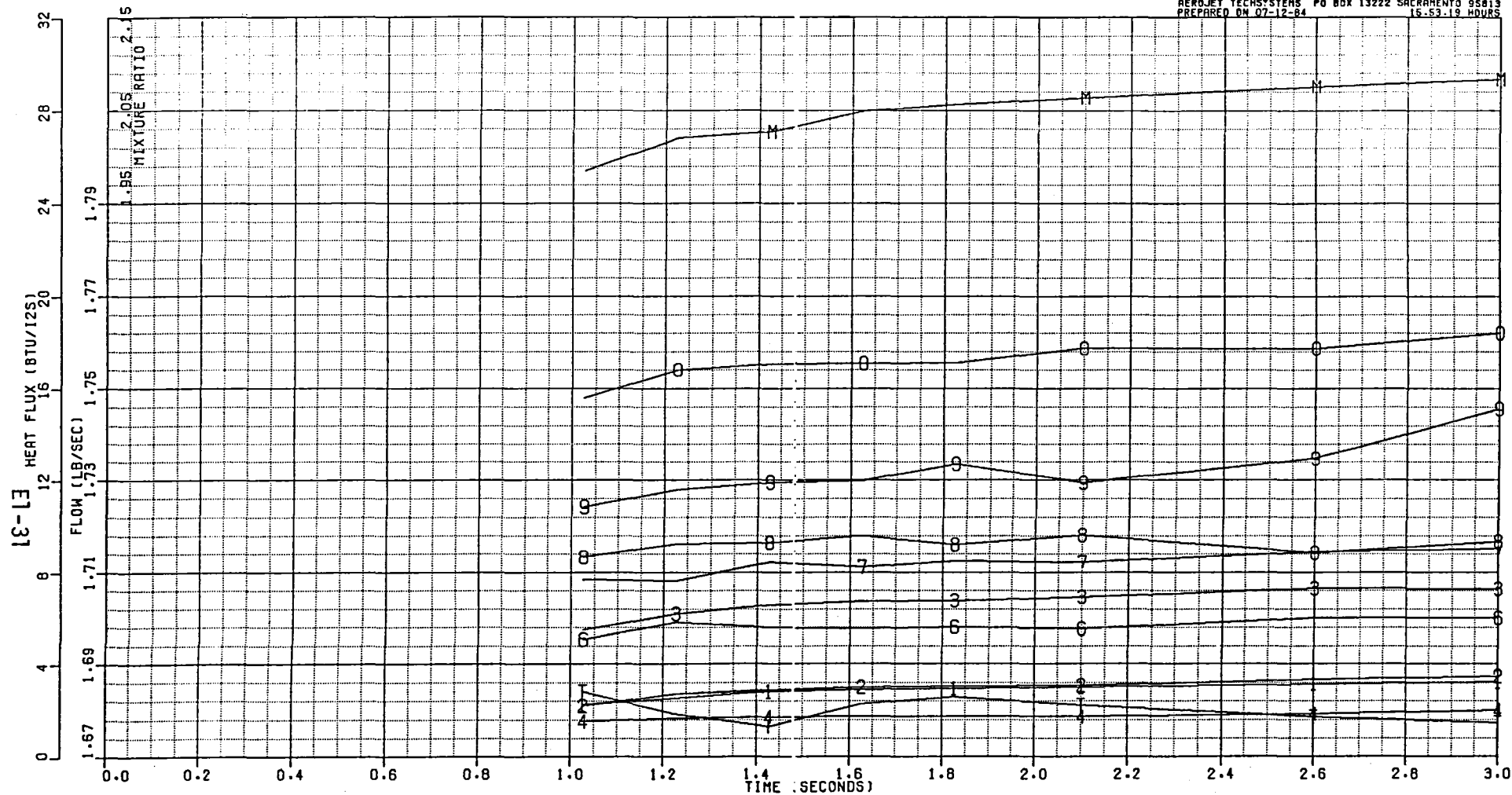
ET-30



1 DPDJ PSI
 2 DPFJ PSI
 3 KWOJ PSI
 4 KWFJ PSI
 5 CSTRMC FT/SEC

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLBL-936-204

TEST DATE 03-19-84 1514 HOURS AVERAGED DATA

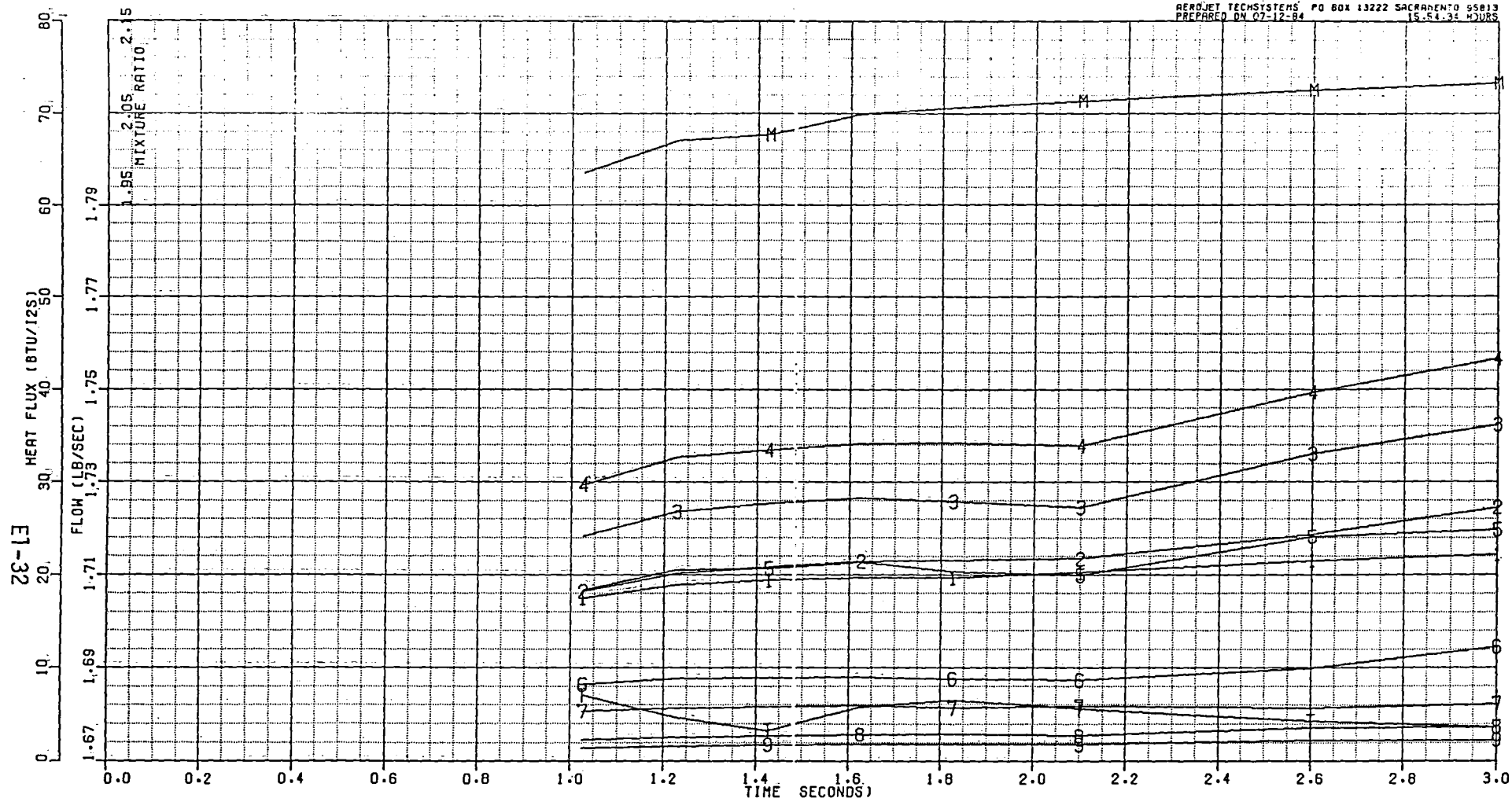


HEAT FLUX (Q/A) VS TIME
TEST NO. RLBL-936-204

NOZZLE DATA

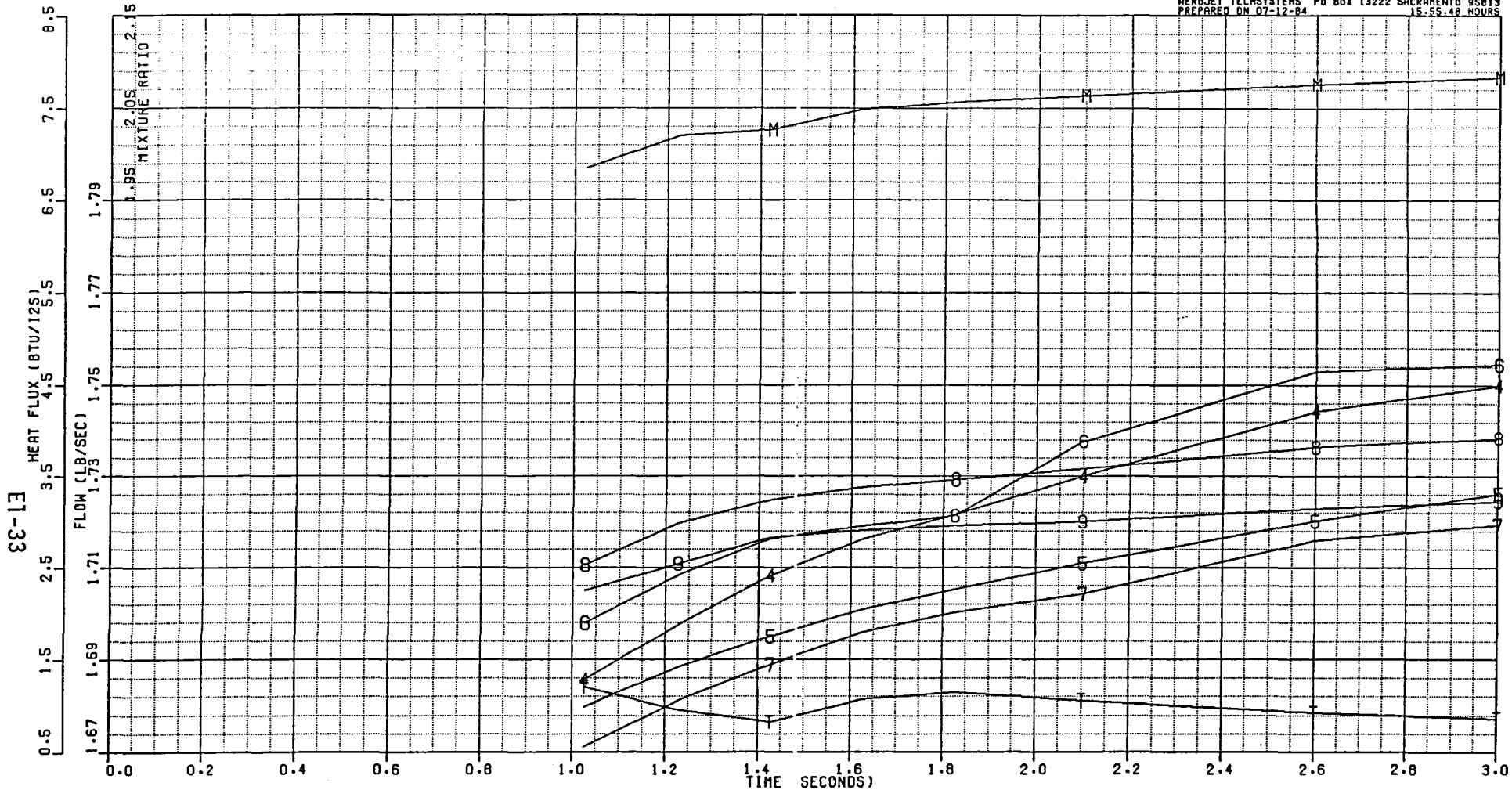
TEST DATE 03-19-84 1514 HOURS

AVERAGED DATA



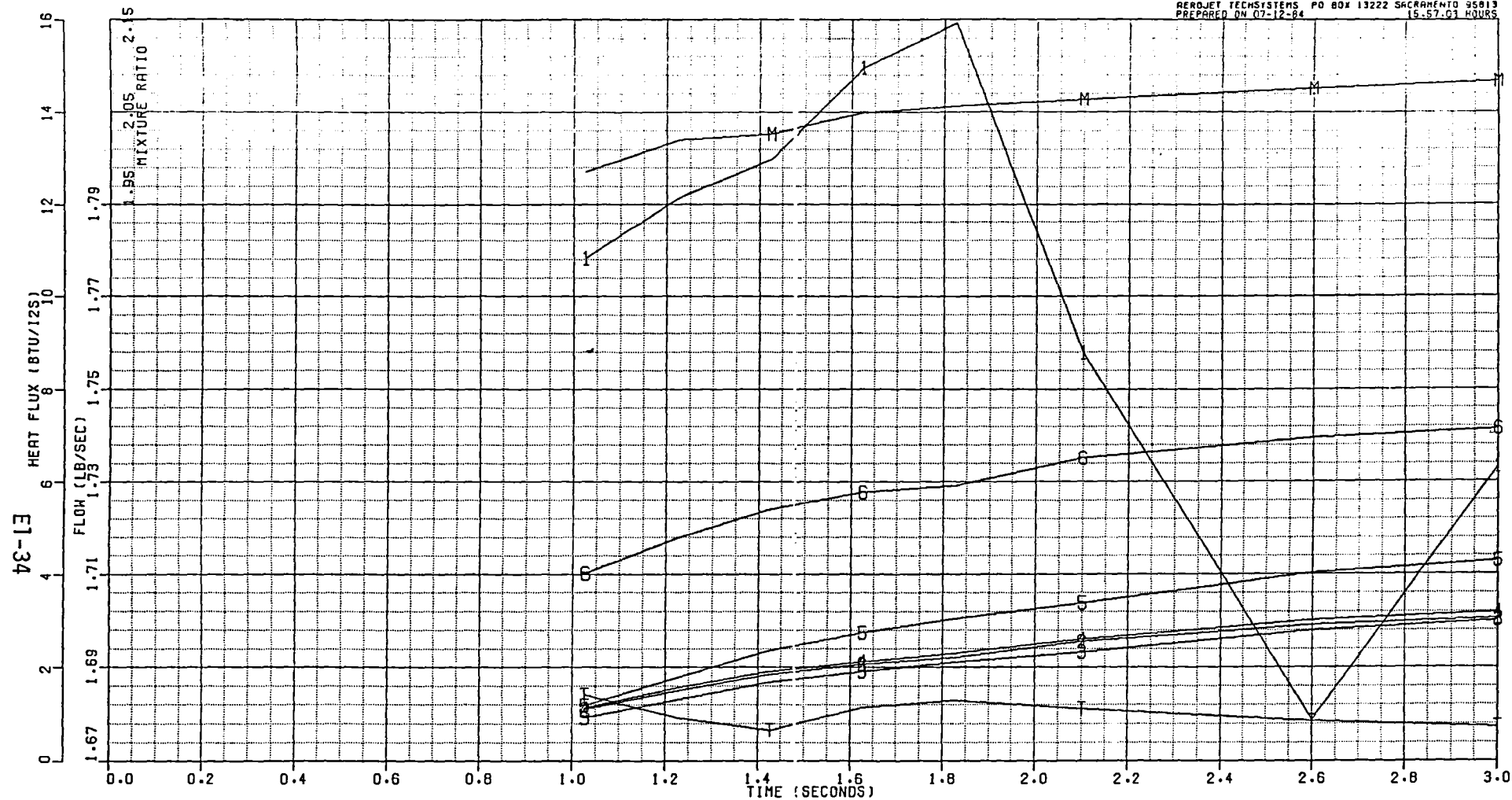
HEAT FLUX (Q/A) VS TIME NOZZLE DATA
 TEST NO. RLBL-936-204

TEST DATE 03-19-84 1514 HOURS AVERAGED DATA



4 Q/R8B1.2 BTU/12S
5 Q/R8B3 BTU/12S
6 Q/R8B4-1 BTU/12S
7 Q/R8B4-2 BTU/12S
8 Q/RN1-1 BTU/12S
9 Q/RN1-2 BTU/12S
T WTOT LBS/SEC
M MR

HEAT FLUX (Q/A) VS TIME BARREL DATA
TEST NO. RLBL-936-204
TEST DATE 03-19-84 1514 HOURS AVERAGED DATA

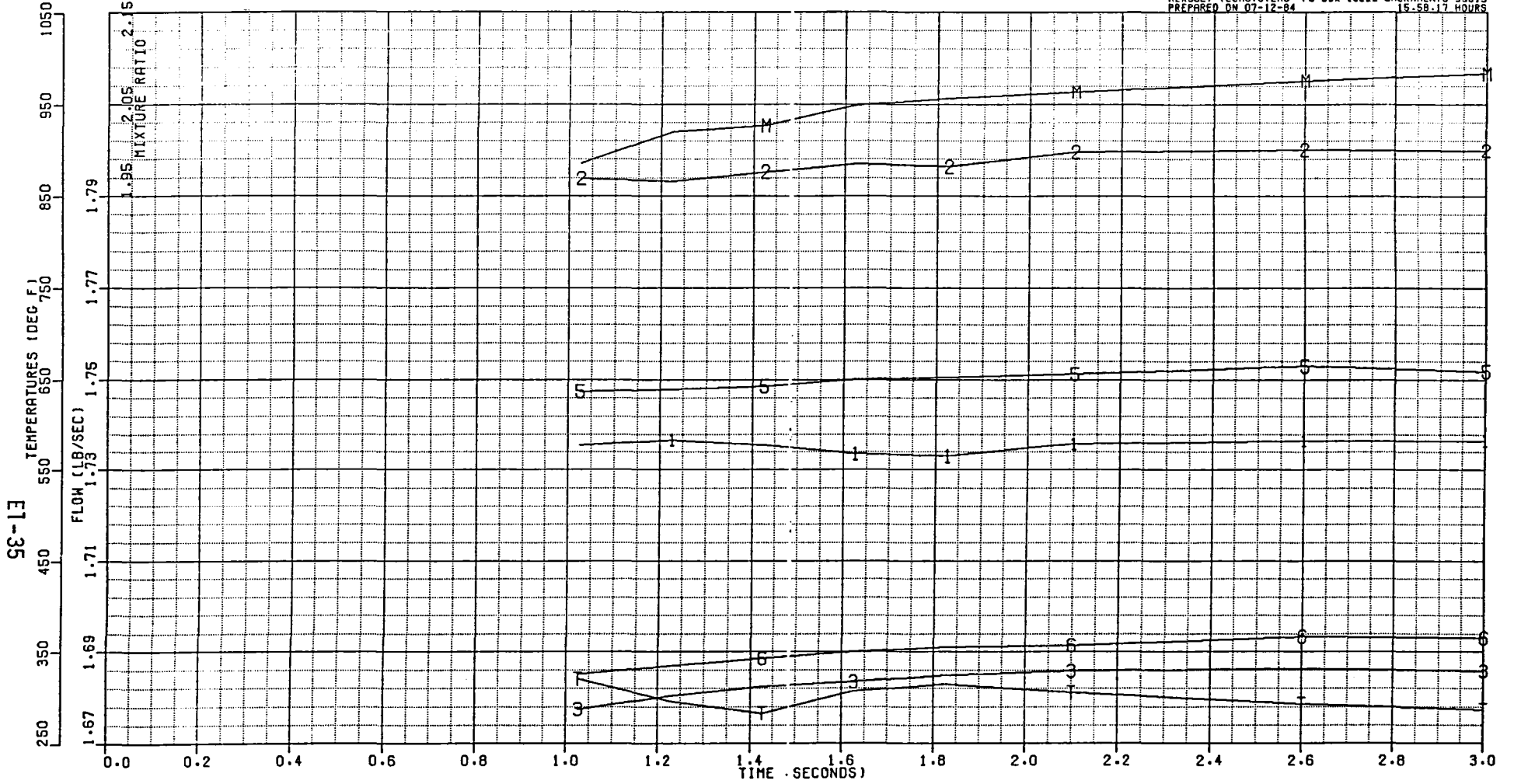


1 Q/ATRM C BTU/12S
 2 Q/A12B6 BTU/12S
 3 Q/A12B5 BTU/12S
 4 Q/A12B3.4 BTU/12S
 5 Q/A12B1-2.2 BTU/12S
 6 Q/A12B1-1 BTU/12S
 T WTOT LBS/SEC
 M MR

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-204

MISC. DATA

TEST DATE 03-19-84 1514 HOURS AVERAGED DATA



1 TC-1 DEG F
 2 TC-2 DEG F
 3 TC-3 DEG F
 4 TC-4 DEG F
 5 TC-5 DEG F
 6 TC-6 DEG F
 T WTOT LBS/SEC
 M MR

GAS SIDE WALL TEMPERATURE VS TIME NOZZLE TEST NO. RLBL-936-204

TEST DATE 03-19-84 1514 HOURS AVERAGED DATA

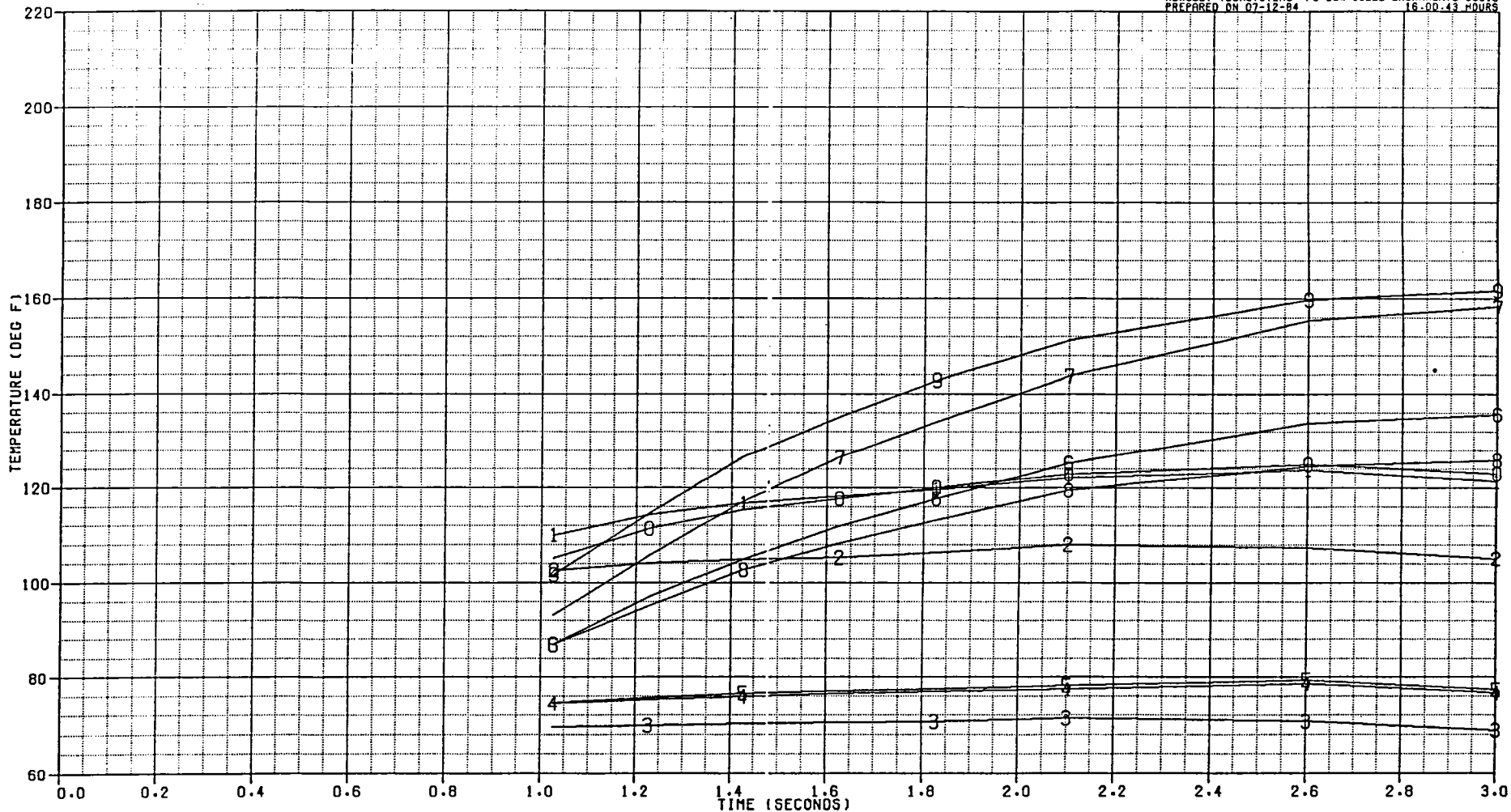


1 TC-7
4 TC-10
5 TC-12
7 TC-13
8 TC-3
9 TC-6
T NYOT
M MR

GAS SIDE WALL TEMP
TEST NO. RLBL-936-204

TEST DATE 03-19-84 1514 HOURS AVERAGED DATA

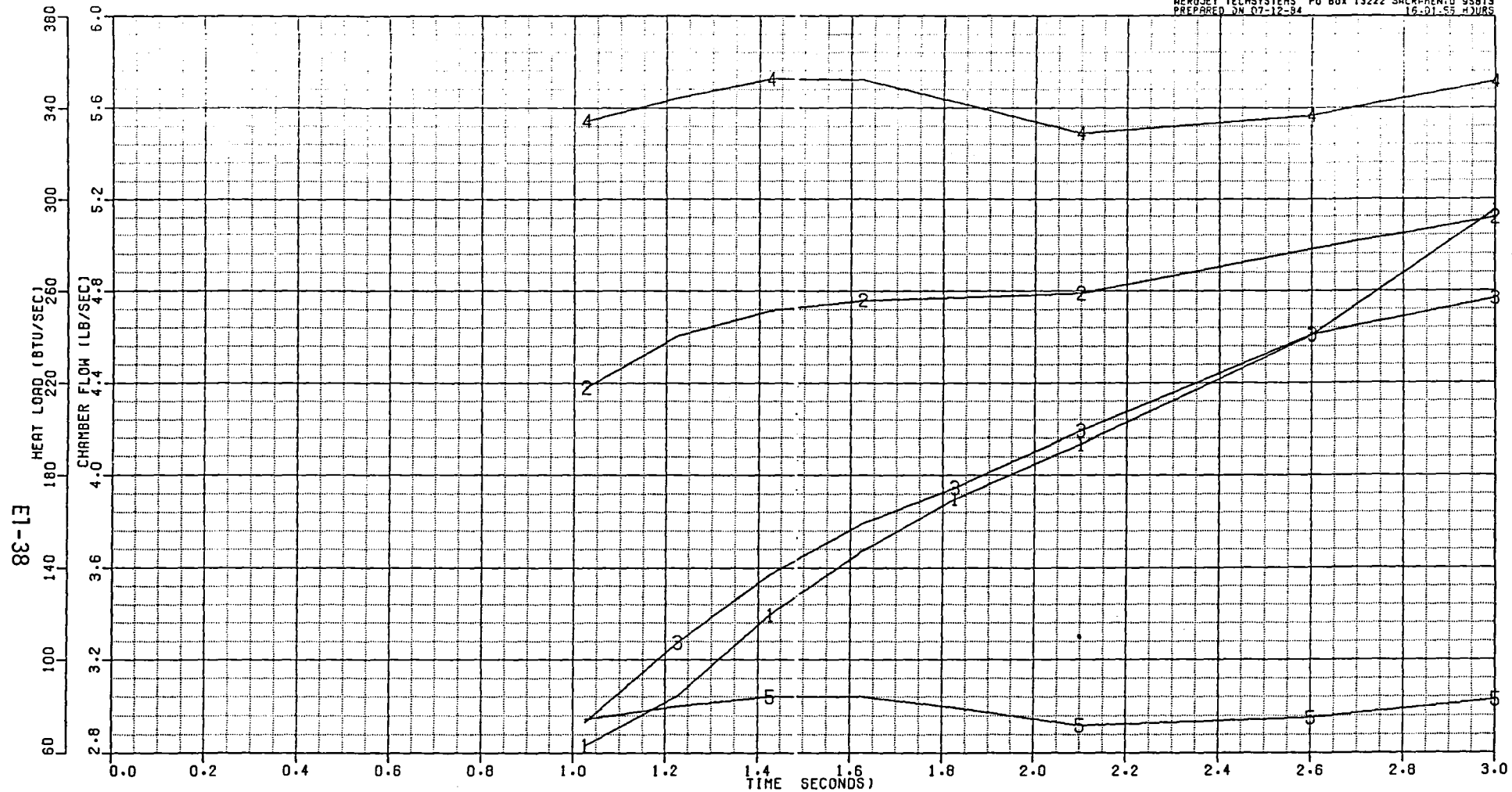
E1-37



COOLANT OUTLET TEMPERATURE VS TIME NO 1
 TEST NO. RLBL-936-204

TEST DATE 03-19-84 1514 HOURS AVERAGED DATA

0 TWC-6	DEG F	8 TWC-28	DEG F
1 TWC-7	DEG F	9 TWC-31	DEG F
2 TWC-10	DEG F		
3 TWC-21	DEG F		
4 TWC-22	DEG F		
5 TWC-23	DEG F		
6 TWC-26	DEG F		
7 TWC-27	DEG F		

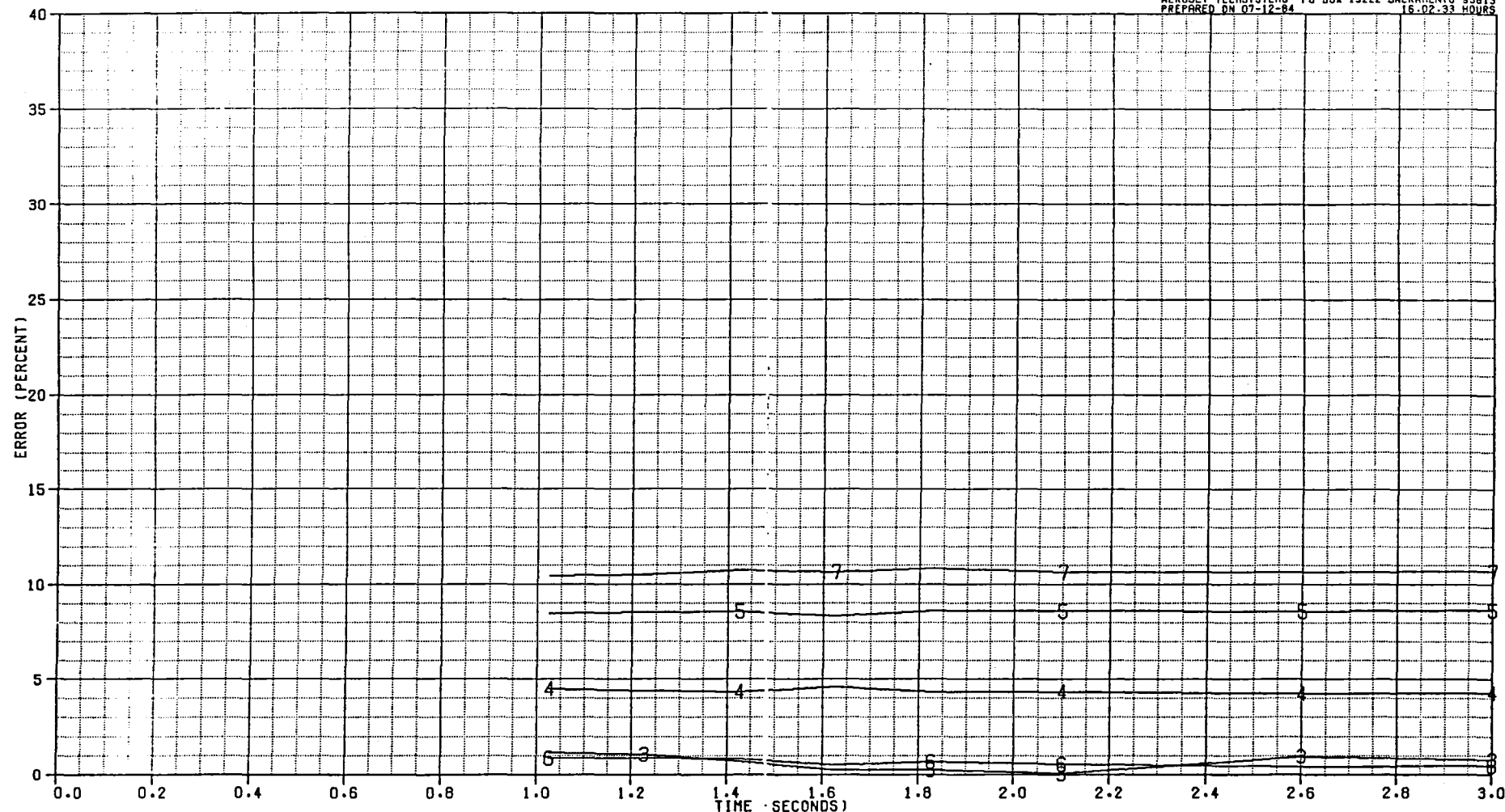


AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813
PREPARED ON 07-12-84 16-01-55 HOURS

CHAMBER FLOW AND HEAT LOAD VS TIME
TEST NO. RLBL-936-204

TEST DATE 03-19-84 1514 HOURS AVERAGED DATA

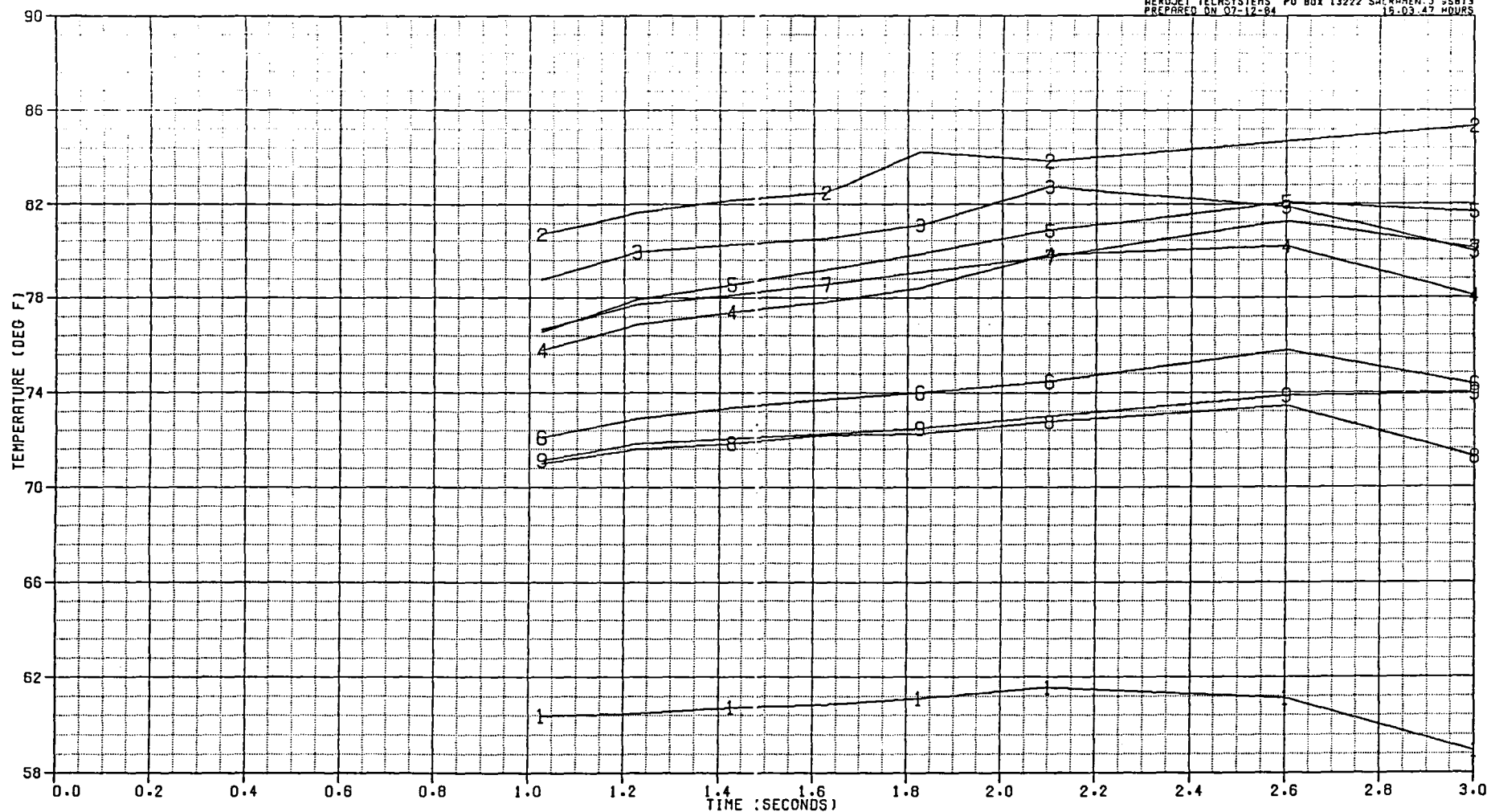
E1-39



1 QERM	PERCENT
2 WERNT	PERCENT
3 WERBBT	PERCENT
4 WER12B1	PERCENT
5 WER12B3	PERCENT
6 WER12B5	PERCENT
7 WERN10	PERCENT

CHAMBER FLOW + HEAT LOAD ERRORS VS TIME
 TEST NO. RLBL-936-204

TEST DATE 03-19-84 1514 HOURS AVERAGED DATA

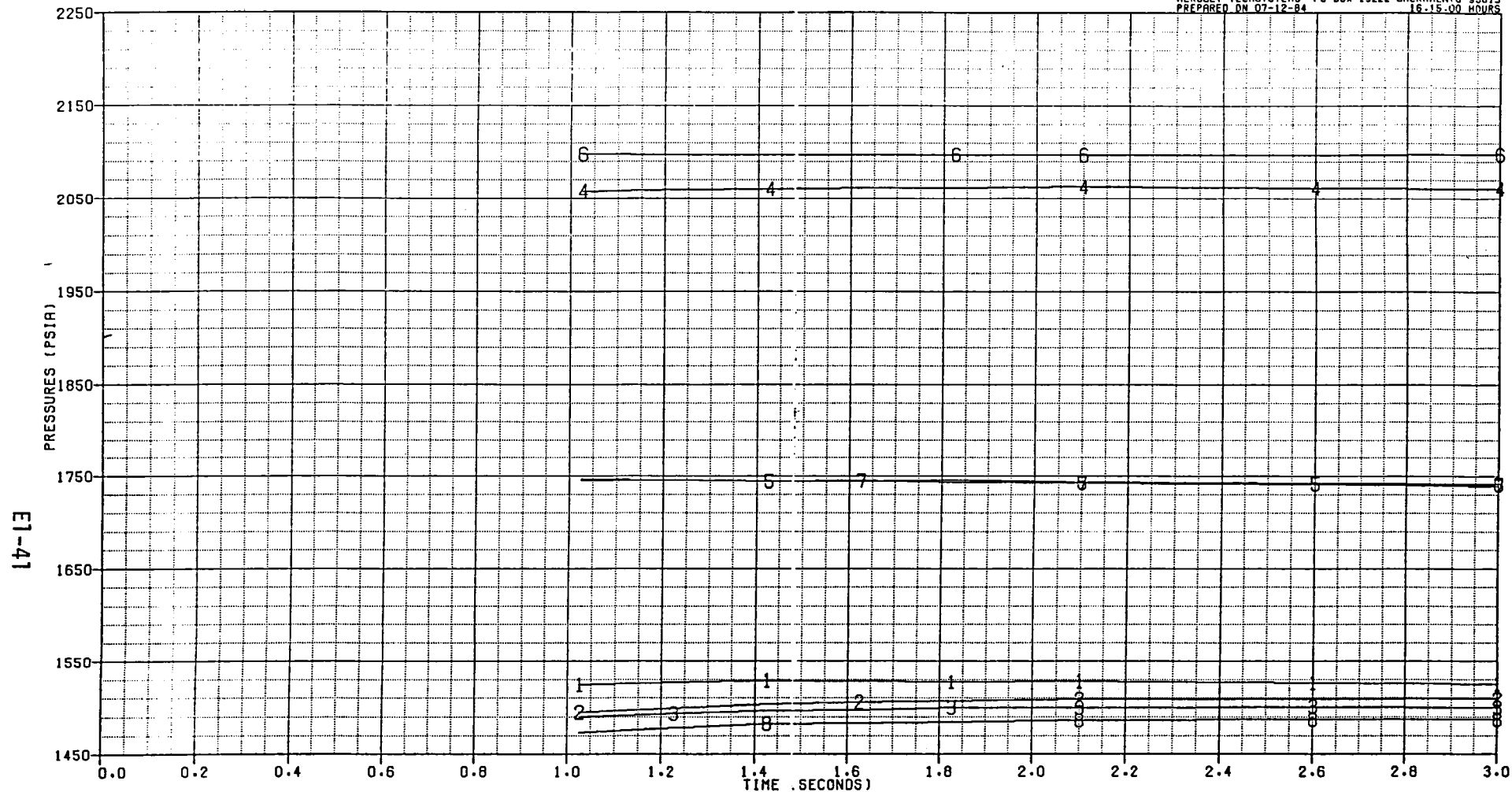


E1-40

1 TWC-1 DEG F
 2 TWC-13 DEG F
 3 TWC-14 DEG F
 4 TWC-15 DEG F
 5 TWC-16 DEG F
 6 TWC-17 DEG F
 7 TWC-18 DEG F
 8 TWC-19 DEG F
 9 TWC-20 DEG F

COOLANT OUTLET TEMPERATURE VS TIME NO 2
 TEST NO. RLBL-936-204

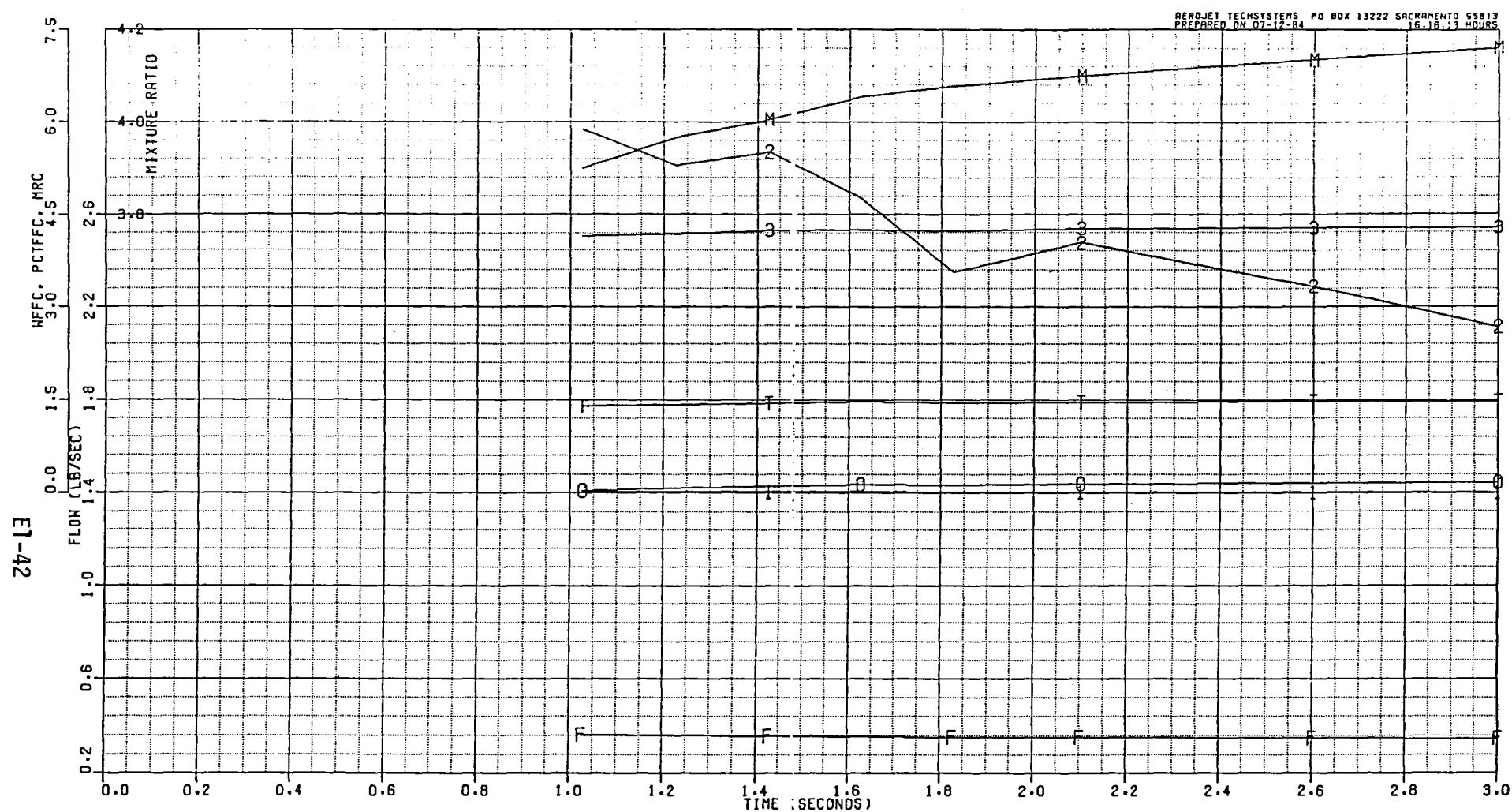
TEST DATE 03-19-84 1514 HOURS AVERAGED DATA



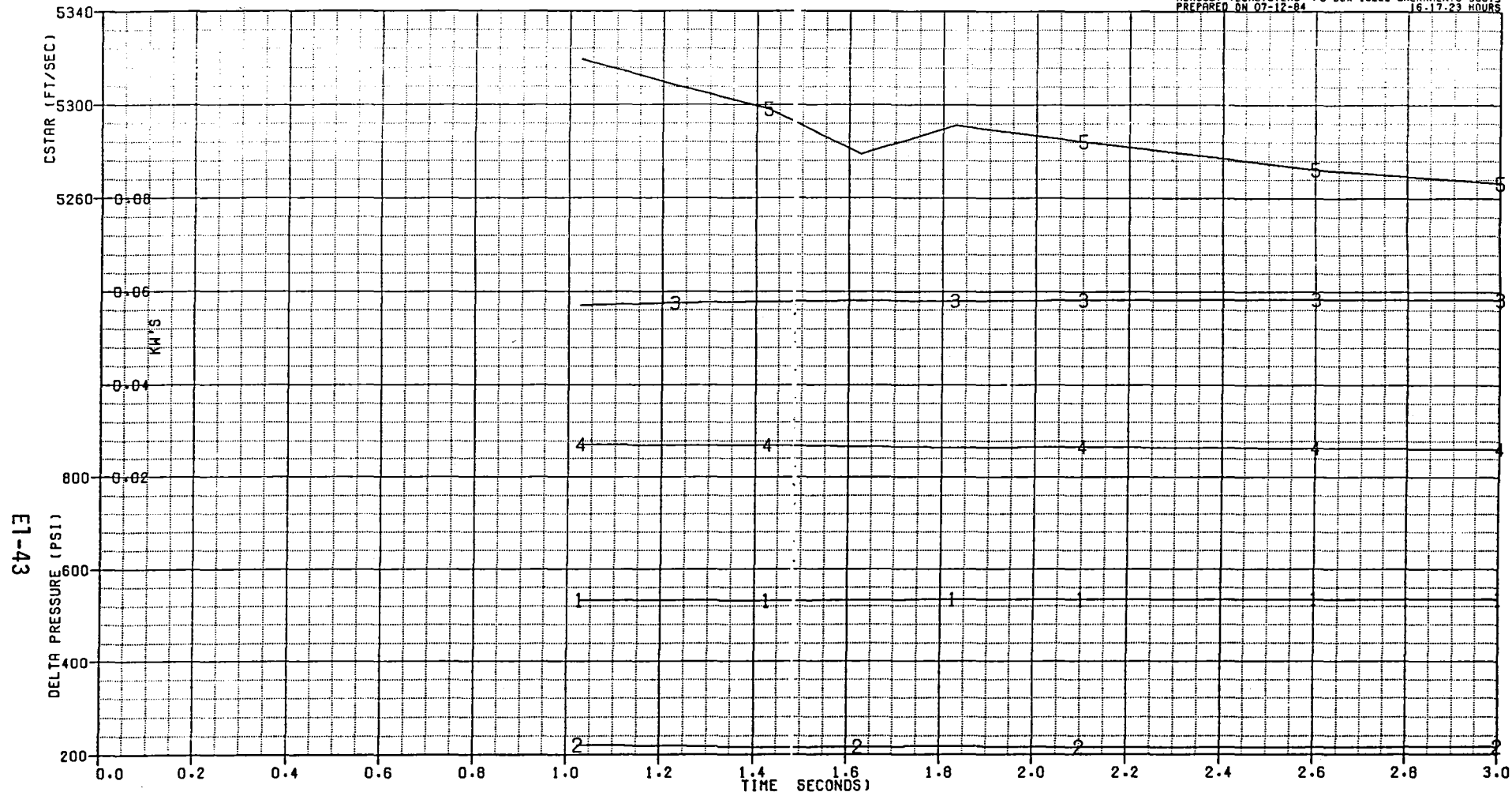
1 PC-1 PSIA
 2 POJI PSIA
 3 PFJI PSIA
 4 POJ PSIA
 5 PFJ PSIA
 6 POT PSIA
 7 PFT PSIA
 8 PFC-1 PSIA

INJECTOR PRESSURES VS TIME TEST NO. RLBL-936-206

TEST DATE 03-19-84 1558 HOURS AVERAGED DATA



F WF LBS/SEC
O WOX LBS/SEC
T WTOT LBS/SEC
M MR
1 WFFC LBS/SEC
2 PCTFFC PERCENT
3 MRC

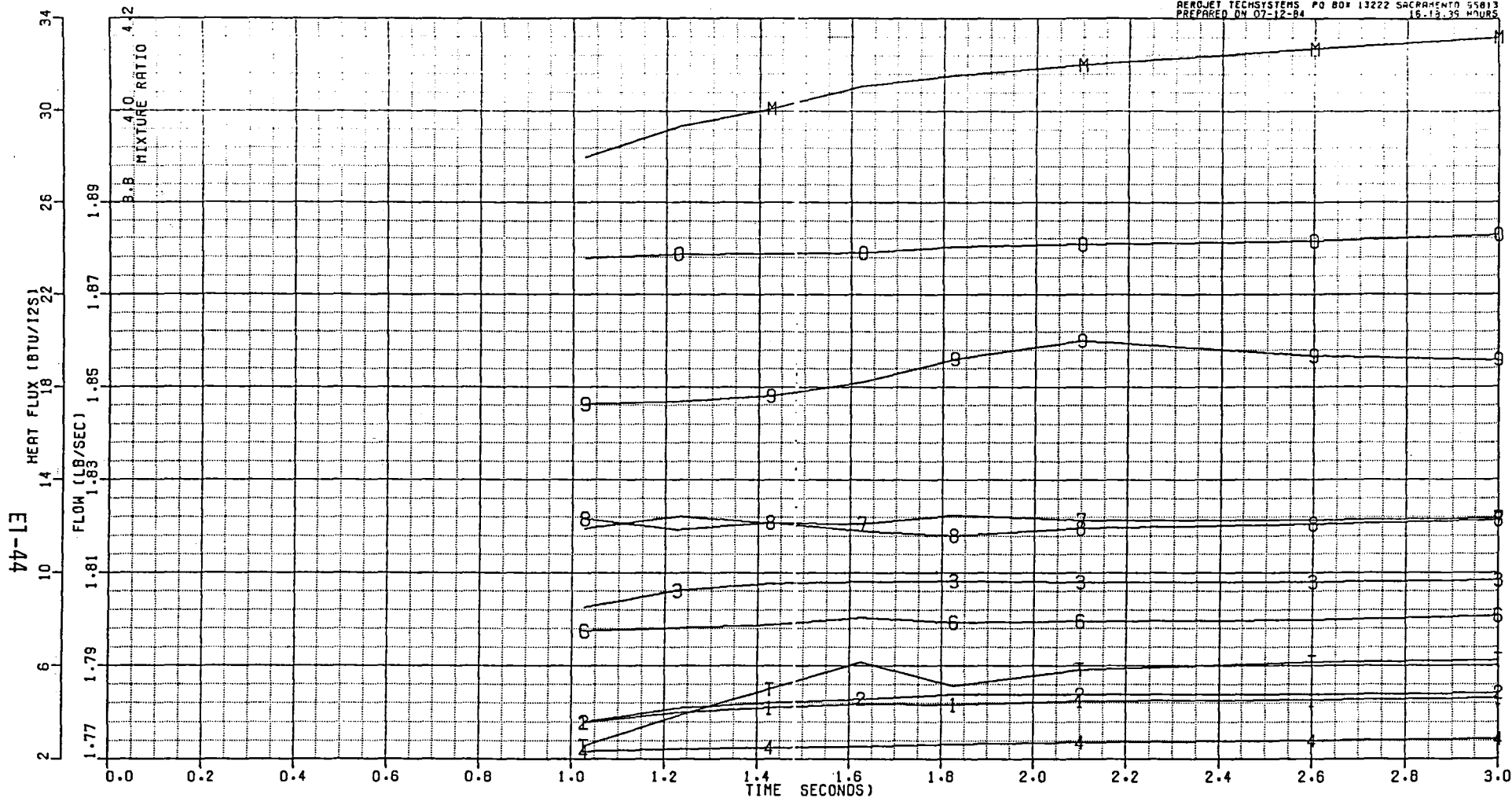


1 DPOJ PSI
 2 DPFJ PSI
 3 KWDJ
 4 KWFJ
 5 CSTRMC .FT/SEC

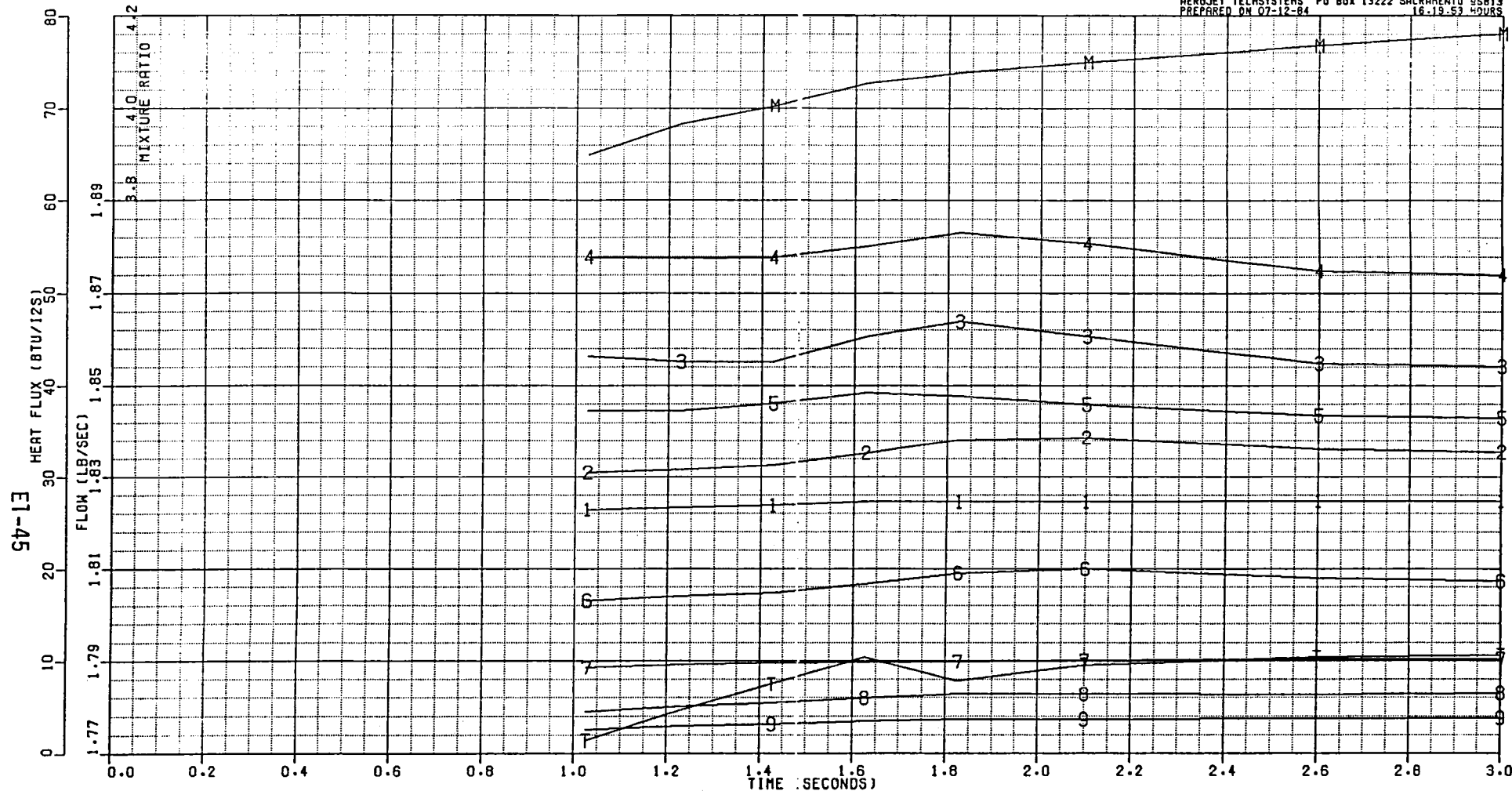
INJECTOR CALCULATIONS VS TIME
 TEST NO. RLBL-936-206

TEST DATE 03-19-84 1558 HOURS AVERAGED DATA

E1-43

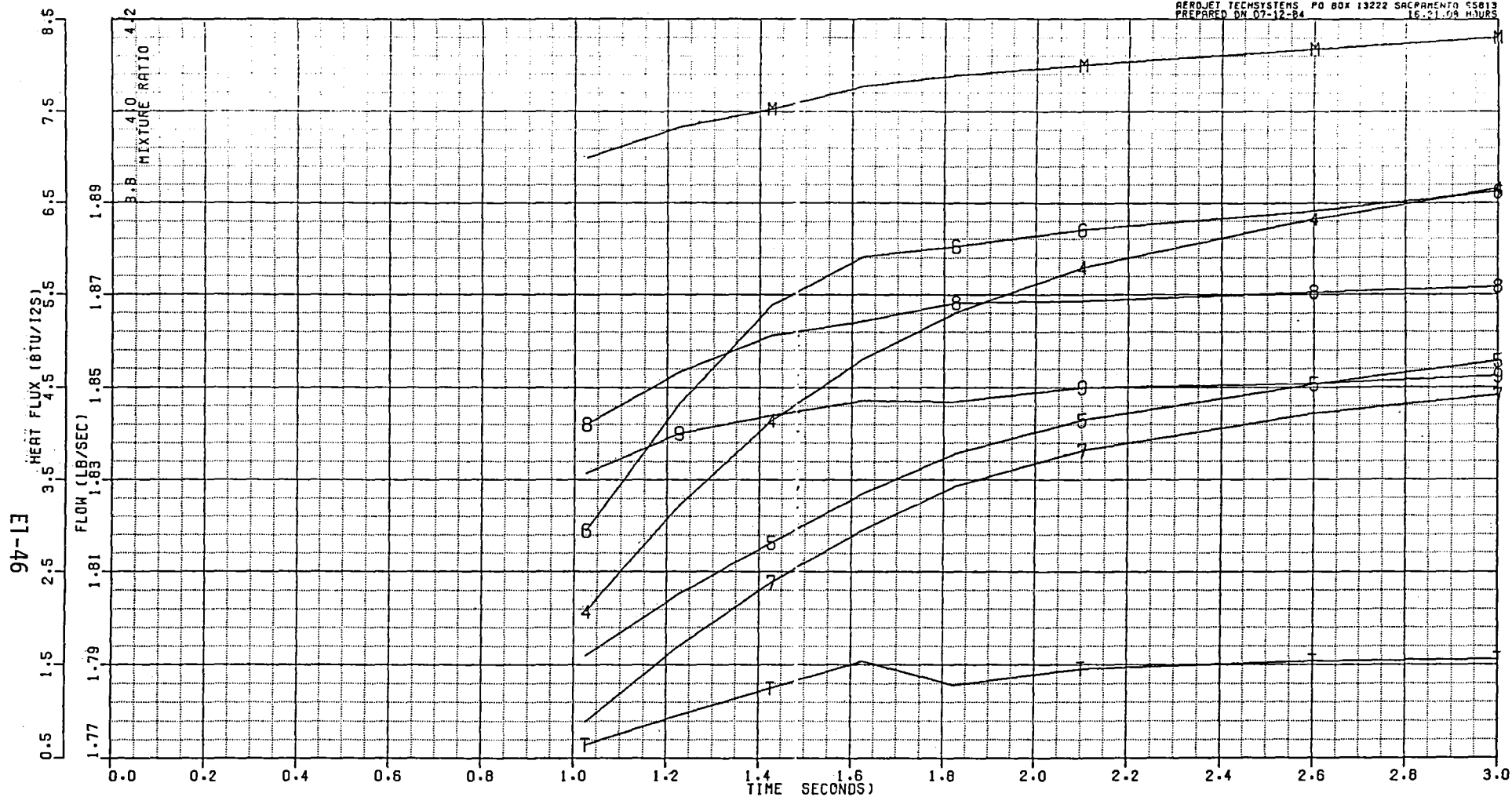


1 Q/AN1-2	BTU/IN²	0 Q/AN5	BTU/IN²
2 Q/AN1-3	BTU/IN²	T WTOT	LB/SEC
3 Q/AN2-1	BTU/IN²	M MR	
4 Q/AN2-2.-3	BTU/IN²		
6 Q/AN3-1	BTU/IN²		
7 Q/AN3-2	BTU/IN²		
8 Q/AN3-3	BTU/IN²		
9 Q/AN4	BTU/IN²		



1 Q/AN6	BTU/12S	9 Q/AN12-3	BTU/12S
2 Q/AN7	BTU/12S	T WTOT	LBS/SEC
3 Q/AN8	BTU/12S	M MR	
4 Q/AN9	BTU/12S		
5 Q/AN10	BTU/12S		
6 Q/AN11	BTU/12S		
7 Q/AN12-1	BTU/12S		
8 Q/AN12-2	BTU/12S		

HEAT FLUX (Q/A) VS TIME NOZZLE DATA
 TEST NO. RLBL-936-206
 TEST DATE 03-19-84 1558 HOURS AVERAGED DATA

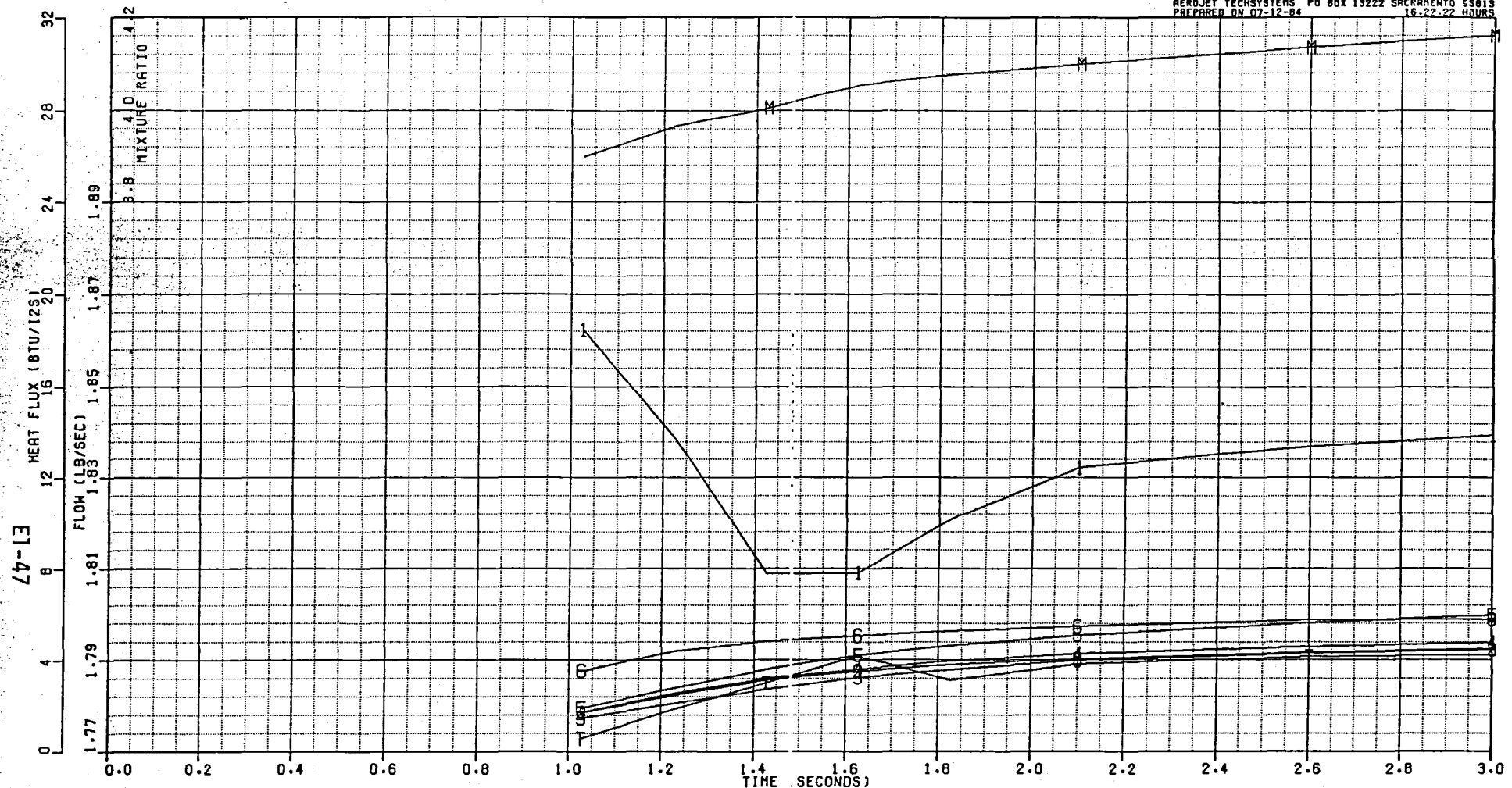


4 Q/A881.2 BTU/12S
5 Q/A883 BTU/12S
6 Q/A884-1 BTU/12S
7 Q/A884-2 BTU/12S
8 Q/AN1-1 BTU/12S
9 Q/AN1-2 BTU/12S
T WTOT LBS/SEC
M MR

HEAT FLUX (Q/A) VS TIME
TEST NO. RLBL-936-206

BARREL DATA

TEST DATE 03-19-84 1558 HOURS AVERAGED DATA

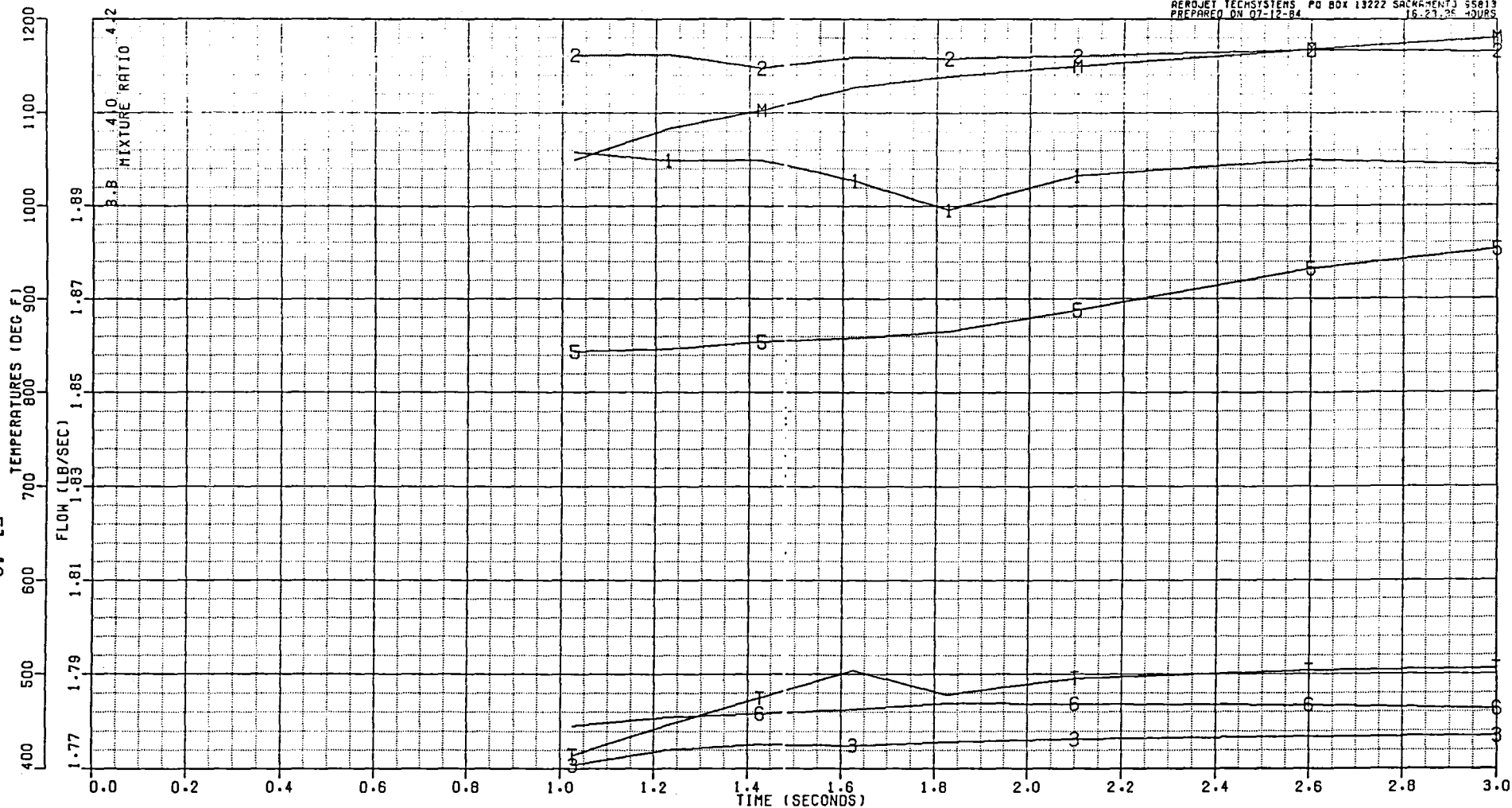


- 1 Q/ATMHC BTU/125
- 2 Q/A12B6 BTU/125
- 3 Q/A12B5 BTU/125
- 4 Q/A12B3.4 BTU/125
- 5 Q/A12B1-2.2 BTU/125
- 6 Q/A12B1-1 BTU/125
- T WTOT LBS/SEC
- M MR

HEAT FLUX (Q/A) VS TIME MISC. DATA
 TEST NO. RLBL-936-206
 TEST DATE 03-19-84 1558 HOURS AVERAGED DATA

E]-47

E1-48

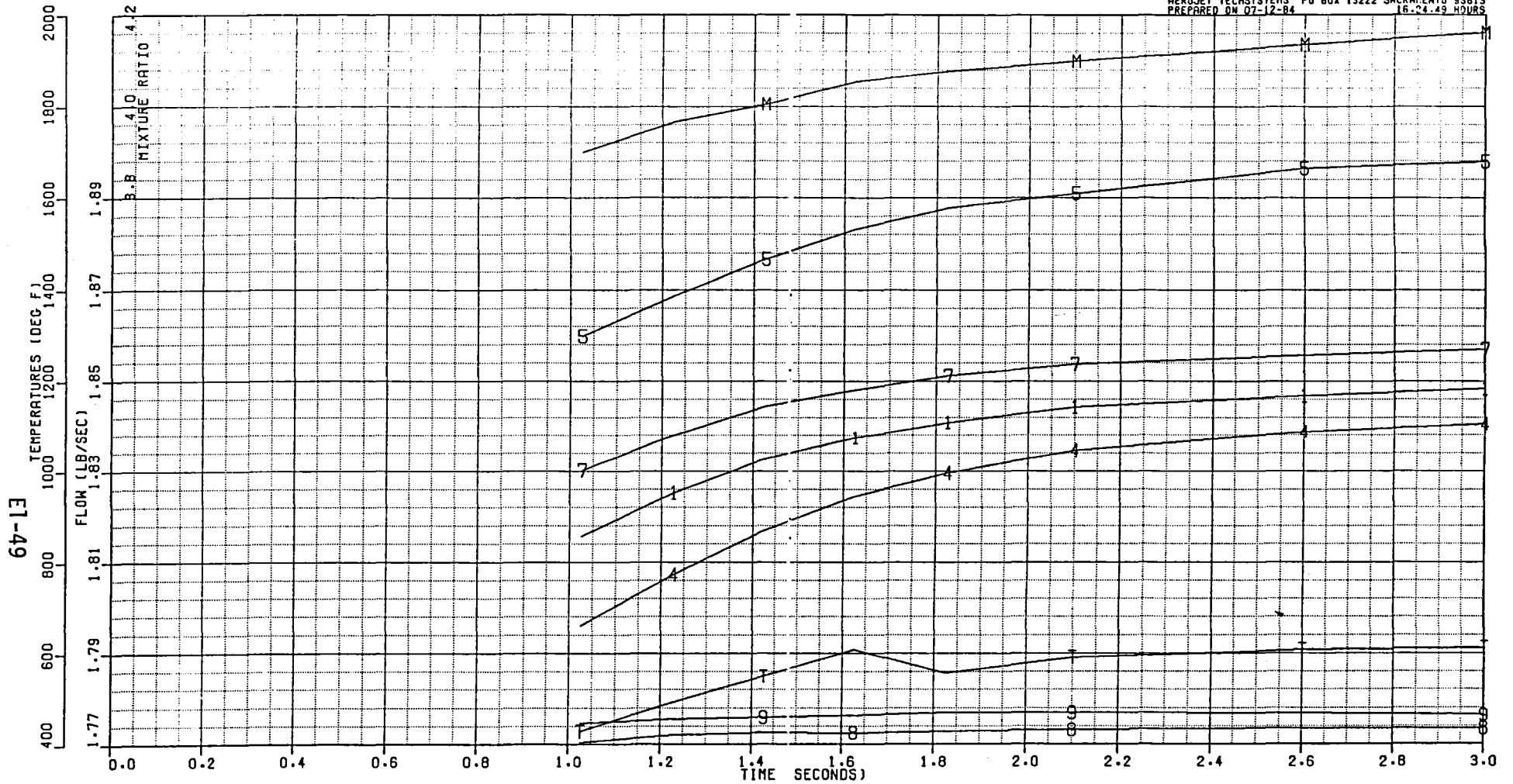


GAS SIDE WALL TEMPERATURE VS TIME NOZZLE
TEST NO. RLBL-936-206

TEST DATE 03-19-84 1558 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813
PREPARED ON 07-12-84 16:21:25 HOURS

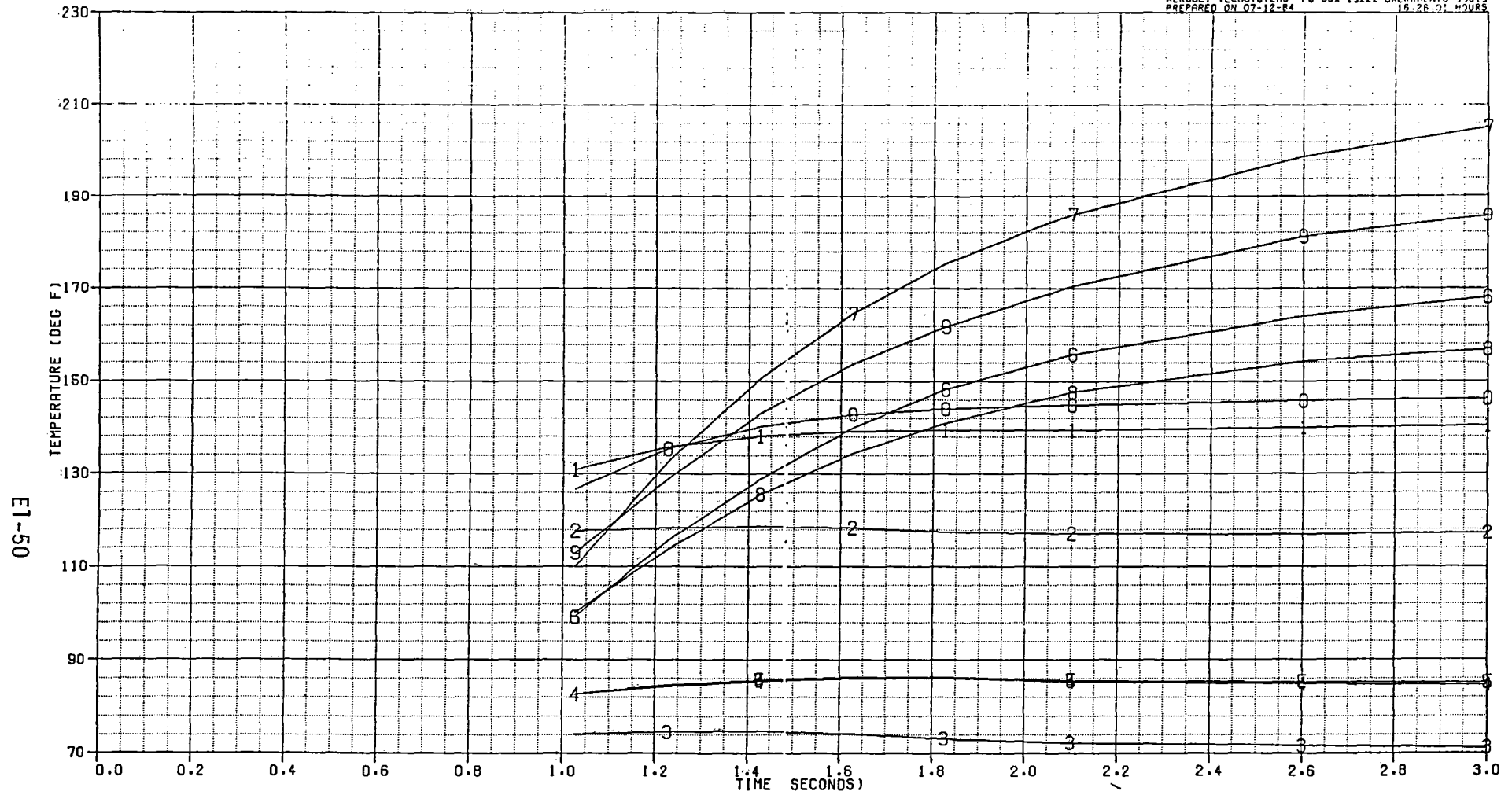
1 TC-1 DEG F
2 TC-2 DEG F
3 TC-3 DEG F
4 TC-4 DEG F
5 TC-5 DEG F
6 TC-6 DEG F
T WTOT LBS/SEC
M MR



1 TC-7 DEG F
4 TC-10 DEG F
5 TC-12 DEG F
7 TC-13 DEG F
8 TC-3 DEG F
9 TC-6 DEG F
T WTOT LBS/SEC
M MR

GAS SIDE WALL TEMPERATURE VS TIME BARREL
TEST NO. RLBL-936-206

TEST DATE 03-19-84 1558 HOURS AVERAGED DATA

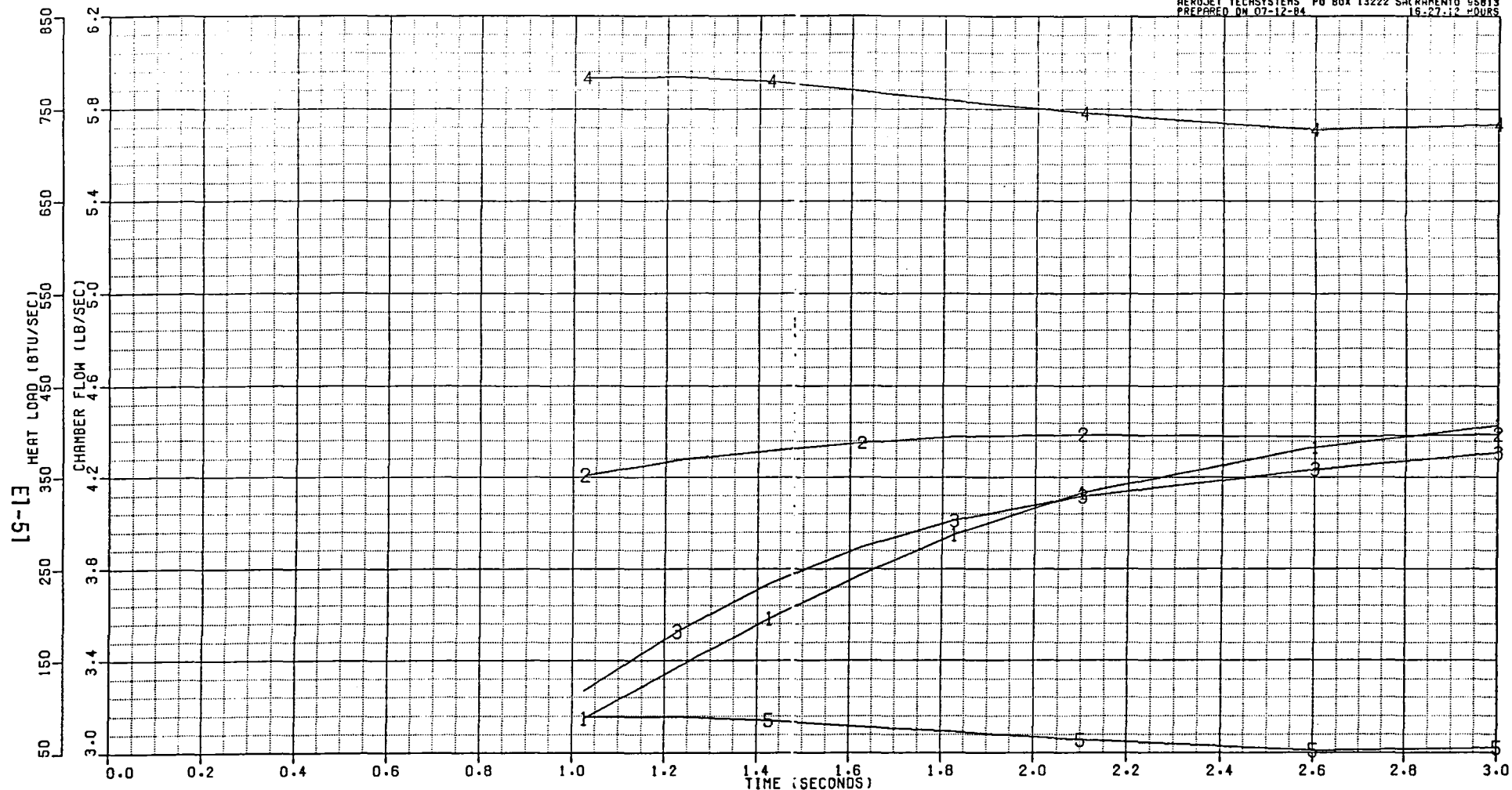


COOLANT OUTLET TEMPERATURE VS TIME NO 1
 TEST NO. RLBL-936-206

TEST DATE 03-19-84 1558 HOURS AVERAGED DATA

0 TWC-6 DEG F
 1 TWC-7 DEG F
 2 TWC-10 DEG F
 3 TWC-21 DEG F
 4 TWC-22 DEG F
 5 TWC-23 DEG F
 6 TWC-26 DEG F
 7 TWC-27 DEG F
 8 TWC-28 DEG F
 9 TWC-31 DEG F

E1-50

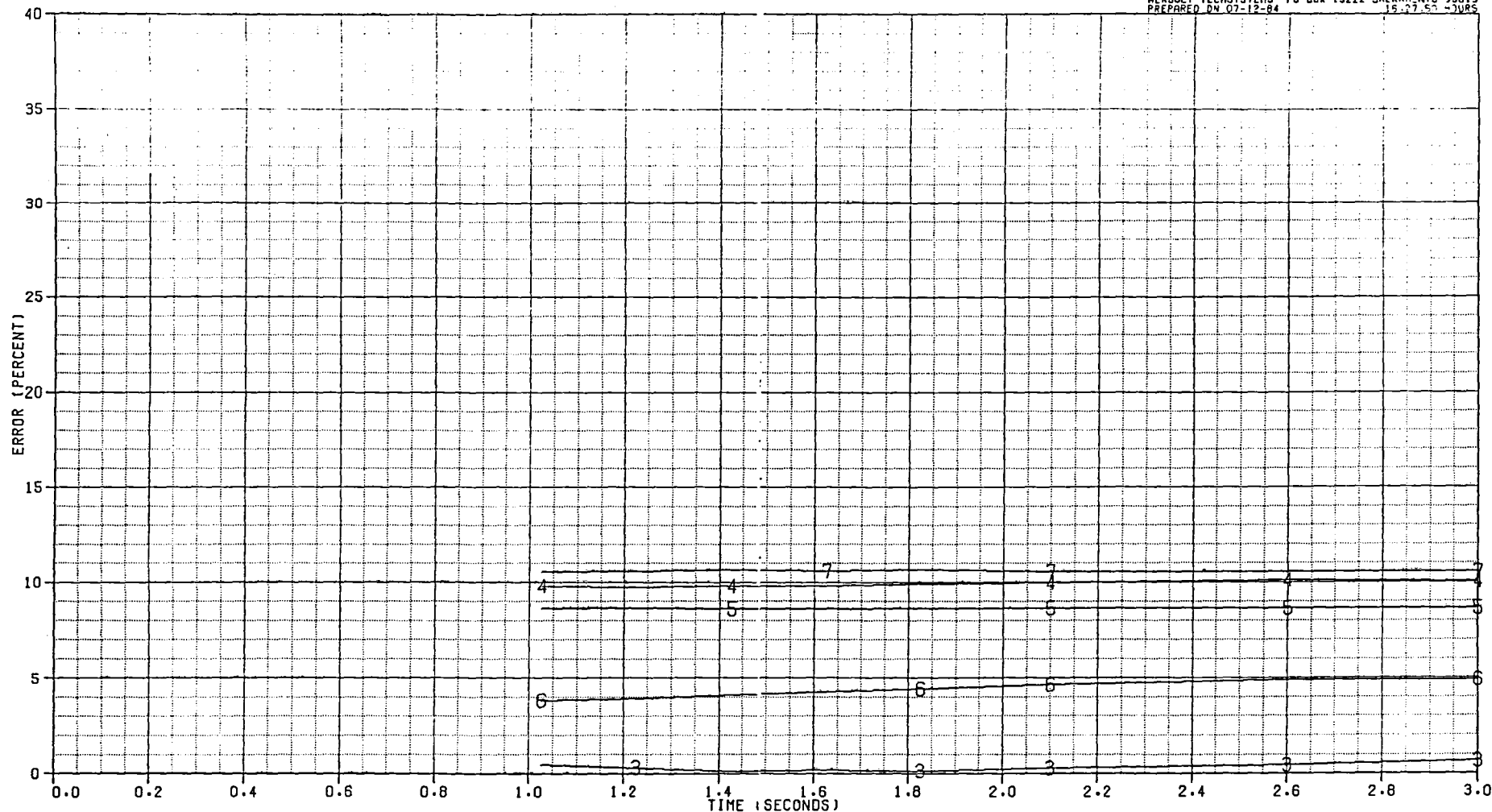


1 QN BTU/SEC
 2 QNT BTU/SEC
 3 QBBT BTU/SEC
 4 WW1 LBS/SEC
 5 WW2 LBS/SEC

CHAMBER FLOW AND HEAT LOAD VS TIME
 TEST NO. RLBL-936-206

TEST DATE 03-19-84 1558 HOURS AVERAGED DATA

E1-52

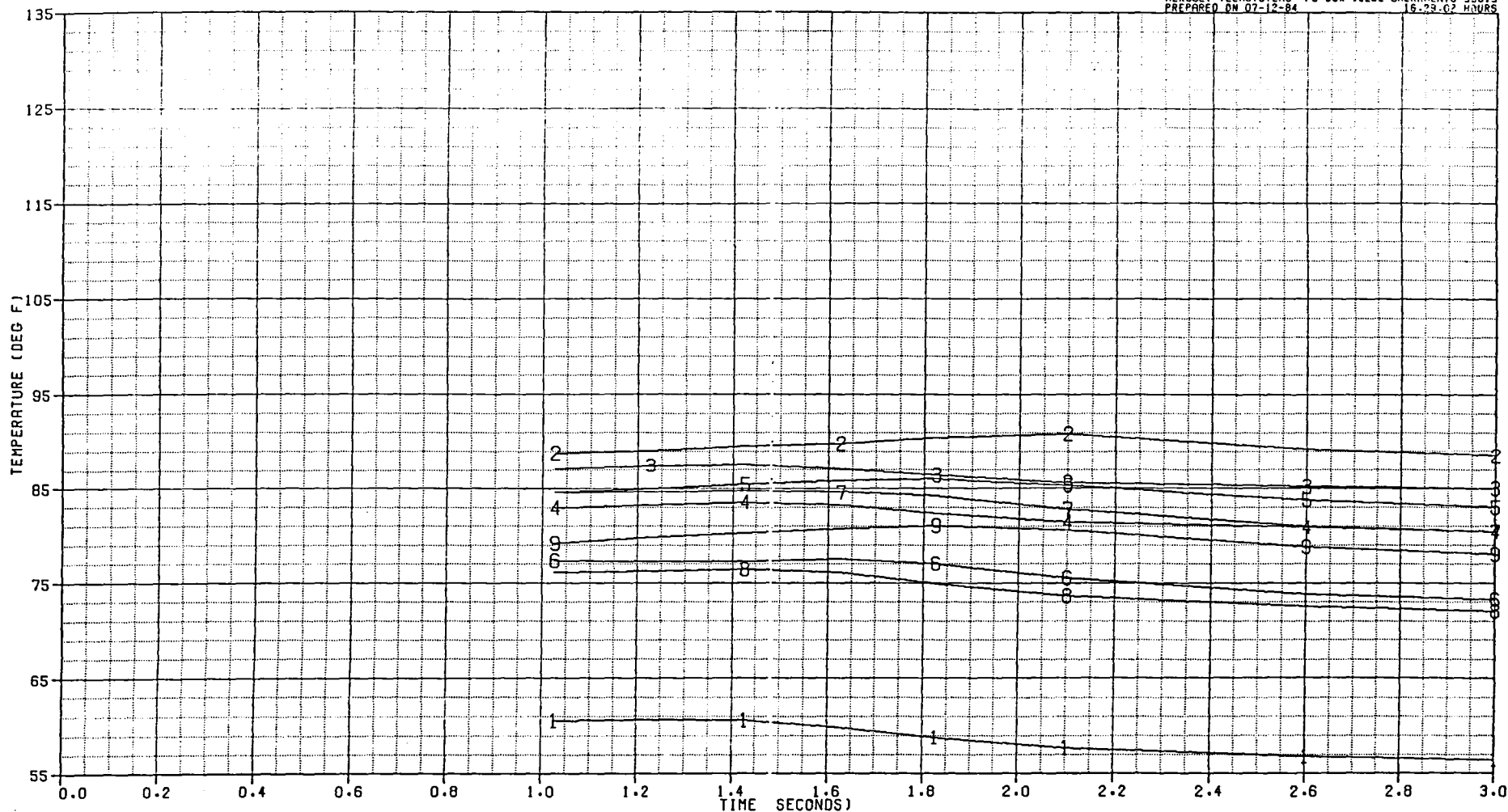


1 QERM PERCENT
 2 WERNT PERCENT
 3 WER8BT PERCENT
 4 WER12B1 PERCENT
 5 WER12B3 PERCENT
 6 WER12B5 PERCENT
 7 WERN10 PERCENT

CHAMBER FLOW + HEAT LOAD ERRORS VS TIME
 TEST NO. RLBL-936-206

TEST DATE 03-19-84 1558 HOURS AVERAGED DATA

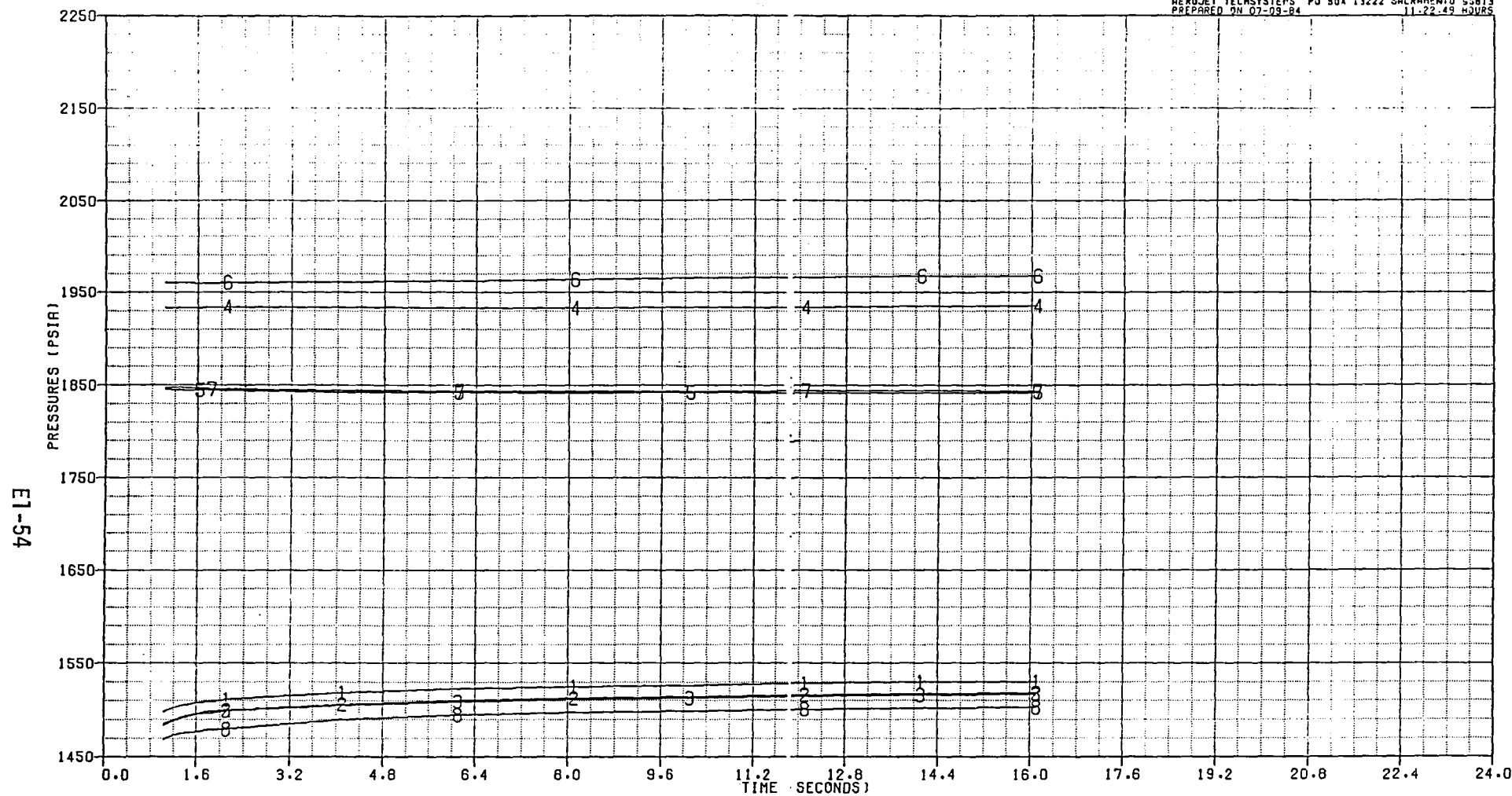
ES-13



1 TWC-1	DEG F	9 TWC-20	DEG F
2 TWC-13	DEG F		
3 TWC-14	DEG F		
4 TWC-15	DEG F		
5 TWC-16	DEG F		
6 TWC-17	DEG F		
7 TWC-18	DEG F		
8 TWC-19	DEG F		

COOLANT OUTLET TEMPERATURE VS TIME NO 2
 TEST NO. RLBL-936-206

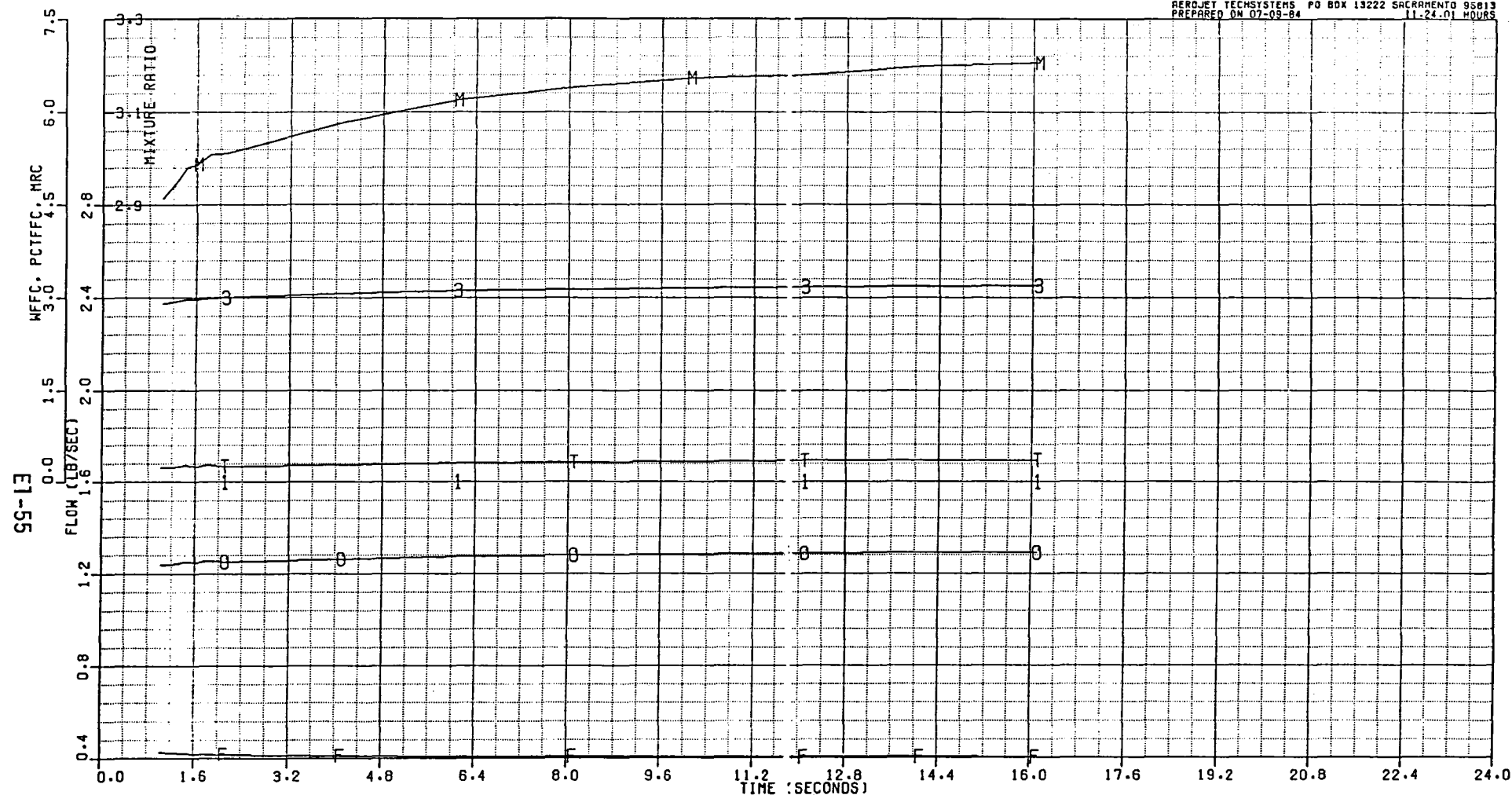
TEST DATE 03-19-84 1558 HOURS AVERAGED DATA



- 1 PC-1 PSIA
- 2 POJI PSIA
- 3 PFJI PSIA
- 4 POJ PSIA
- 5 PFJ PSIA
- 6 PQT PSIA
- 7 PFT PSIA
- 8 PFC-1 PSIA

INJECTOR PRESSURES VS TIME TEST NO. RLBL-936-213

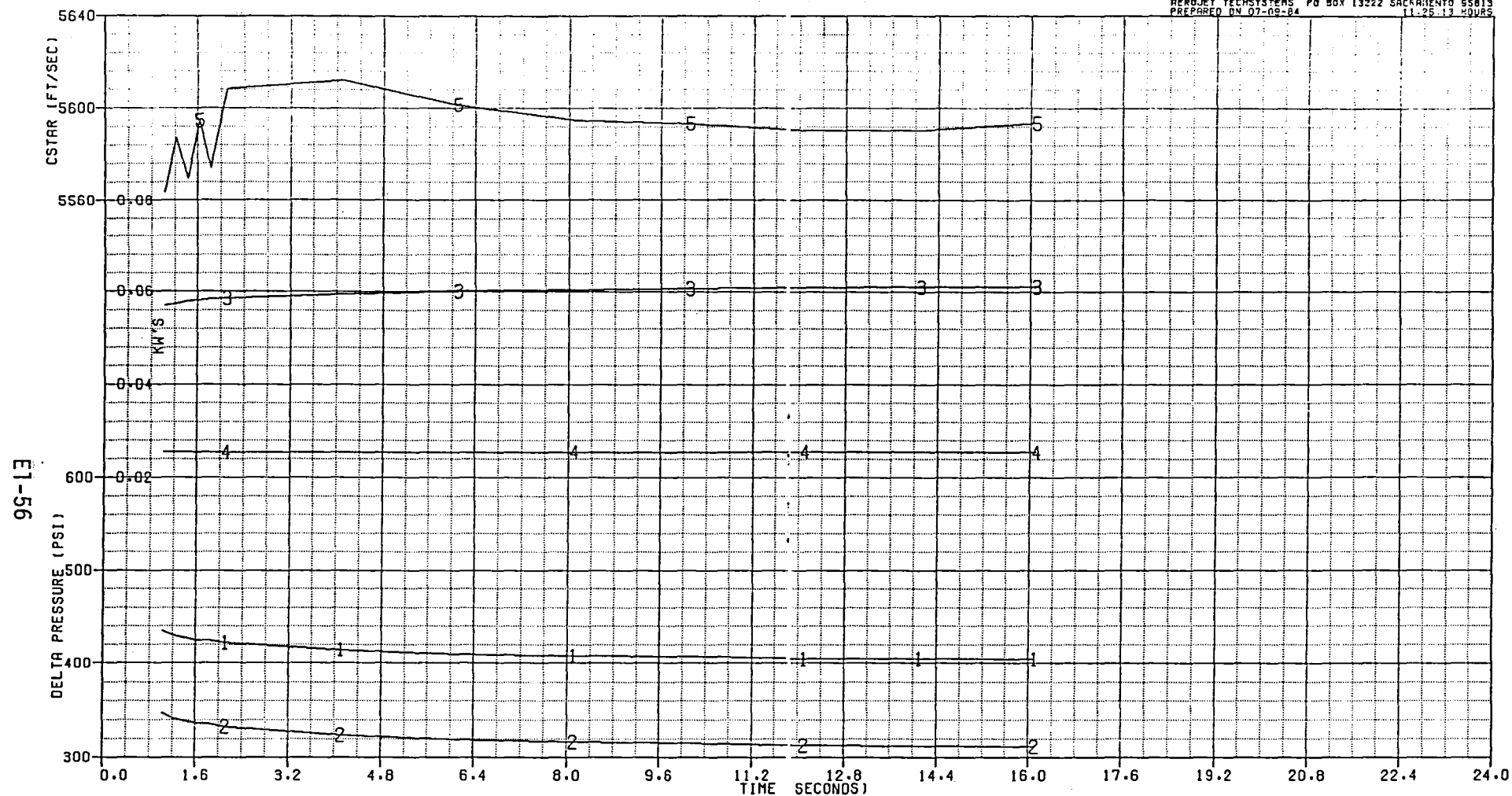
TEST DATE 05-03-84 1257 HOURS AVERAGED DATA



F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR
 1 WFFC LBS/SEC
 2 PCTFFC PERCENT
 3 MRC

INJECTOR FLOW VS TIME
 TEST NO. RLBL-936-213

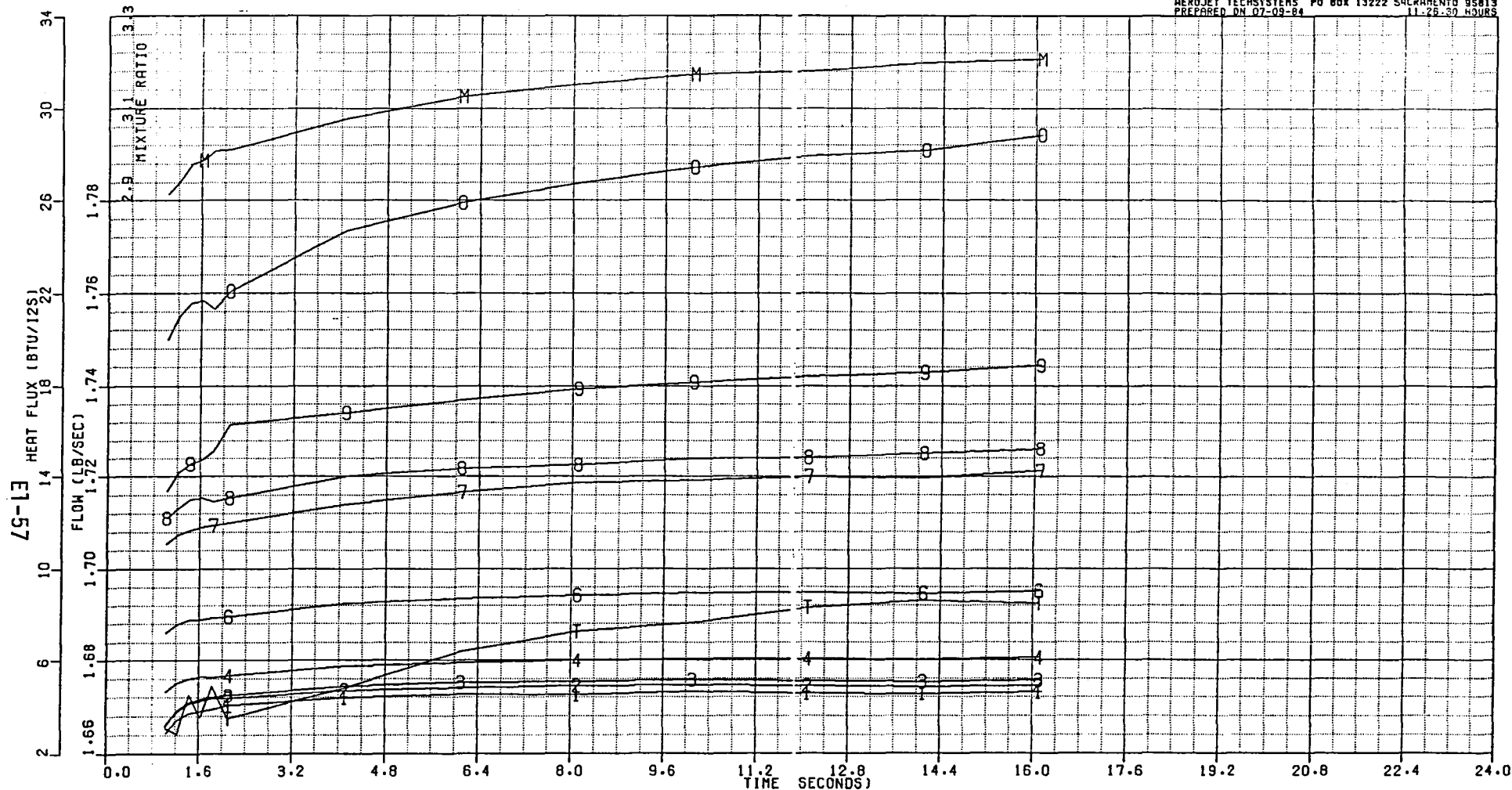
TEST DATE 05-03-84 1257 HOURS AVERAGED DATA



1 DPOJ PSI
 2 DPFJ PSI
 3 KWOJ
 4 KWFJ
 5 CSTRMC FT/SEC

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLBL-936-213

TEST DATE 05-03-84 1257 HOURS AVERAGED DATA

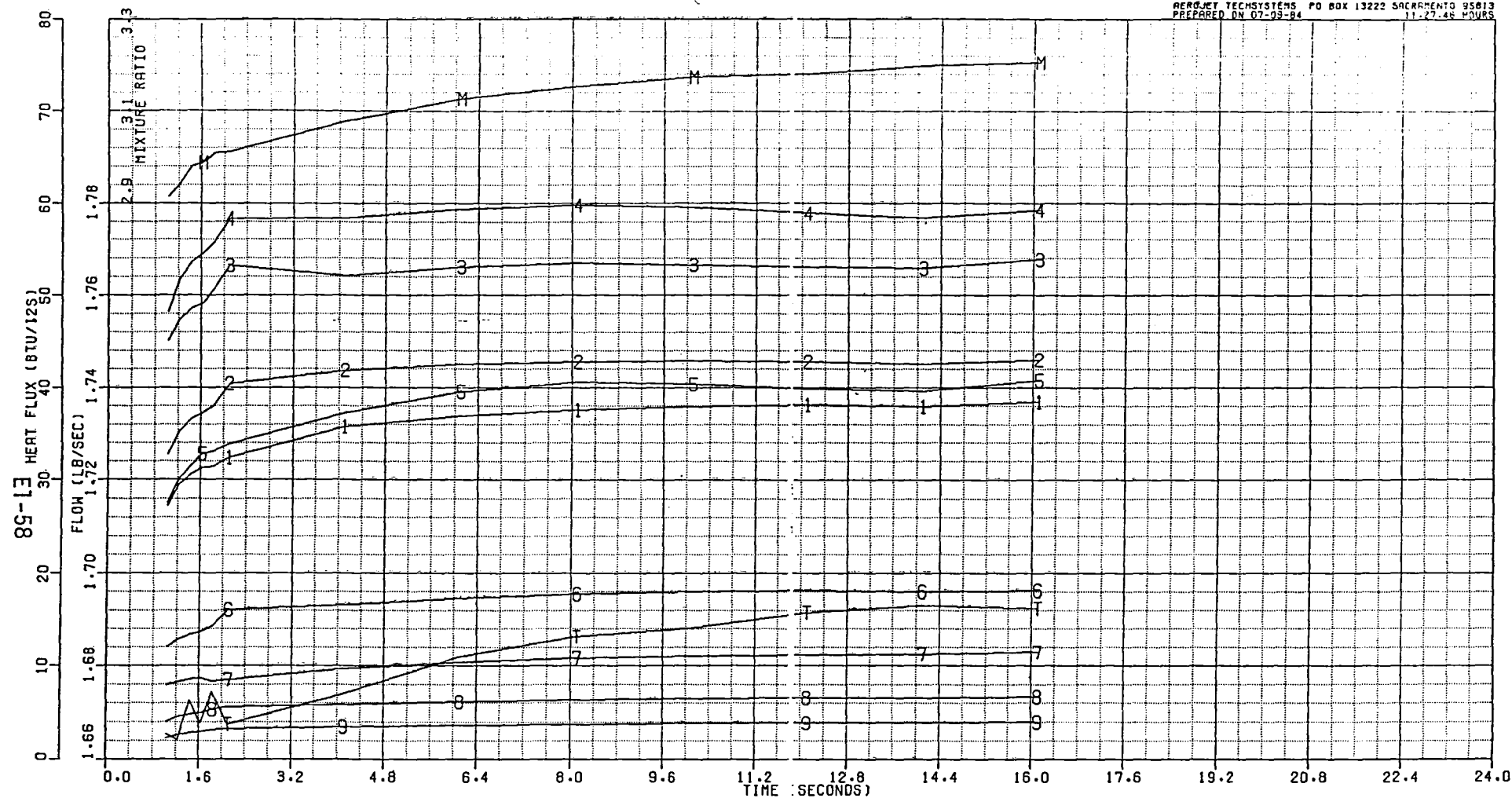


HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-213

NOZZLE DATA

TEST DATE 05-03-84 1257 HOURS

AVERAGED DATA

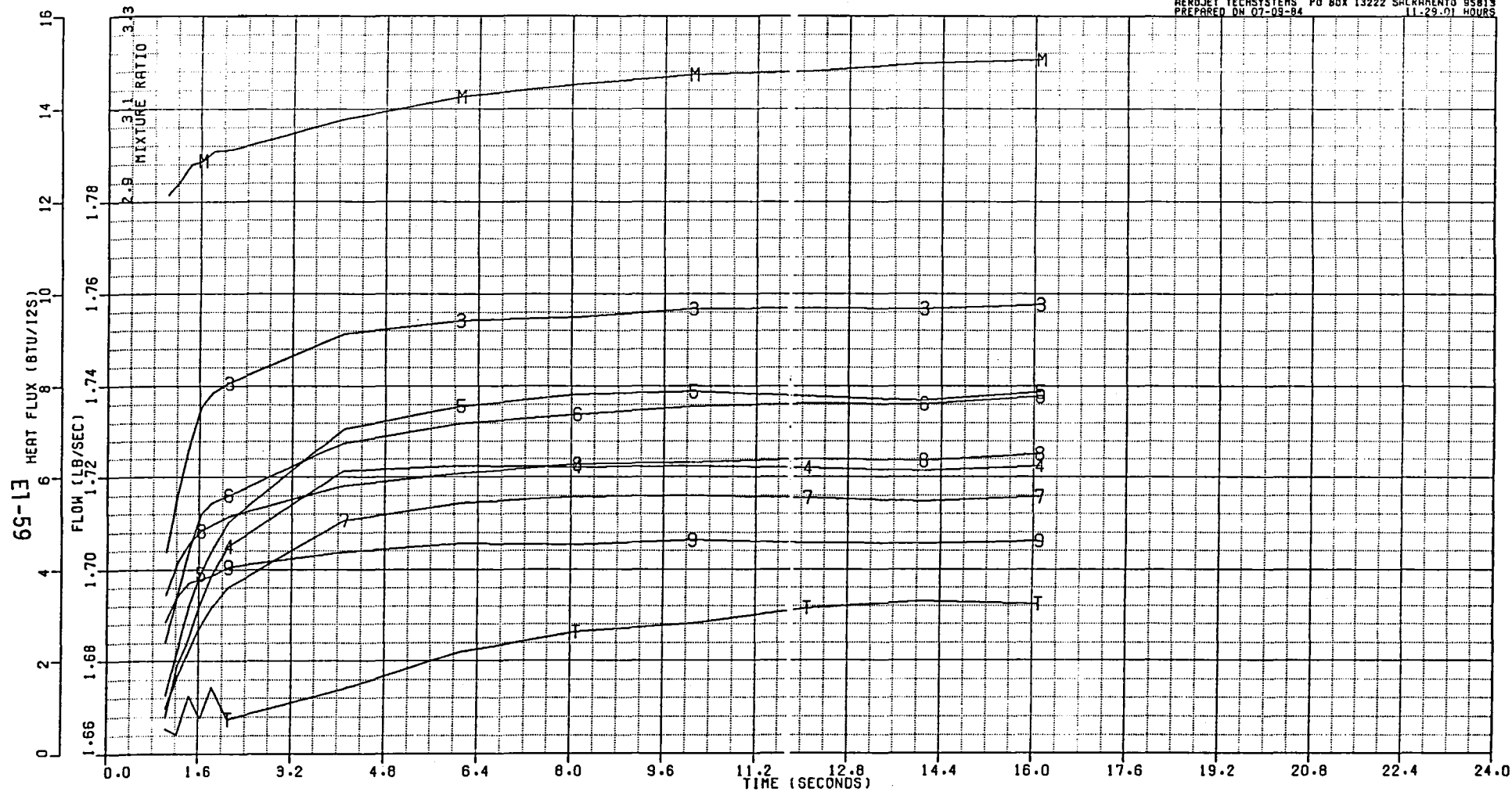


1 Q/AN6	BTU/12S	9 Q/AN12-3	BTU/12S
2 Q/AN7	BTU/12S	T WTOT	LBS/SEC
3 Q/AN8	BTU/12S	M MR	
4 Q/AN9	BTU/12S		
5 Q/AN10	BTU/12S		
6 Q/AN11	BTU/12S		
7 Q/AN12-1	BTU/12S		
8 Q/AN12-2	BTU/12S		

HEAT FLUX (Q/A) VS TIME
TEST NO. RLBL-936-213

NOZZLE DATA

TEST DATE 05-03-84 1257 HOURS AVERAGED DATA



3 Q/A8B1-1	BTU/12S	M MR
4 Q/A8B2	BTU/12S	
5 Q/A8B1-2	BTU/12S	
6 Q/A8B4-1	BTU/12S	
7 Q/A8B4-2.3	BTU/12S	
8 Q/A81-1	BTU/12S	
9 Q/A81-2	BTU/12S	
T WTOT	LBS/SEC	

HEAT FLUX (Q/A) VS TIME BARREL DATA
 TEST NO. RLBL-936-213

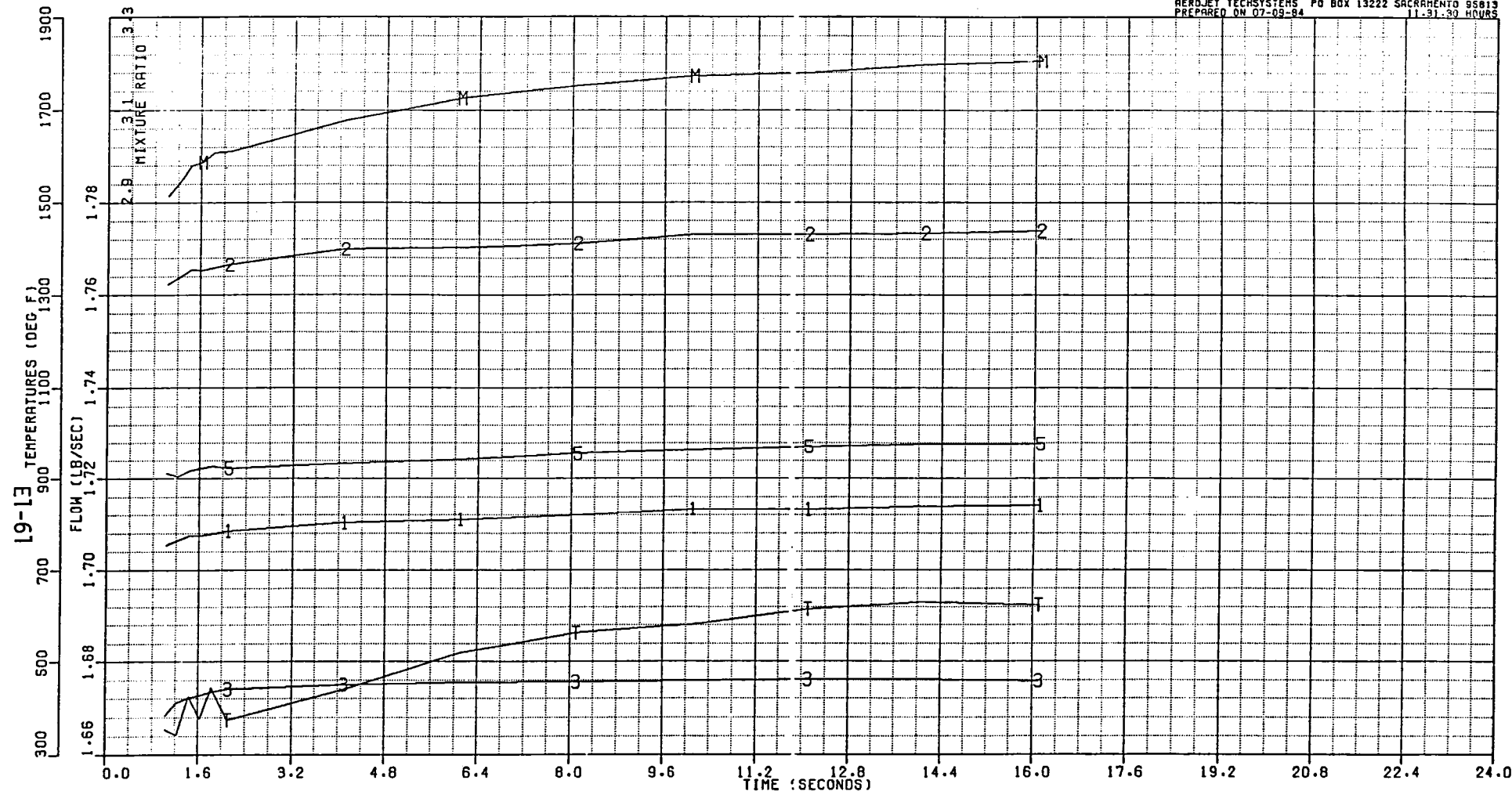
TEST DATE 05-03-84 1257 HOURS AVERAGED DATA

1 Q/ATRCM	BTU/I2S
2 Q/A12B6-1	BTU/I2S
3 Q/A12B6-2,5	BTU/I2S
4 Q/A12B3.4	BTU/I2S
5 Q/A12B1-2,2	BTU/I2S
6 Q/A12B1-1	BTU/I2S
T WTOT	LBS/SEC
M MR	

HEAT FLUX (Q/A) VS TIME
TEST NO. RLBL-936-213

MISC. DATA

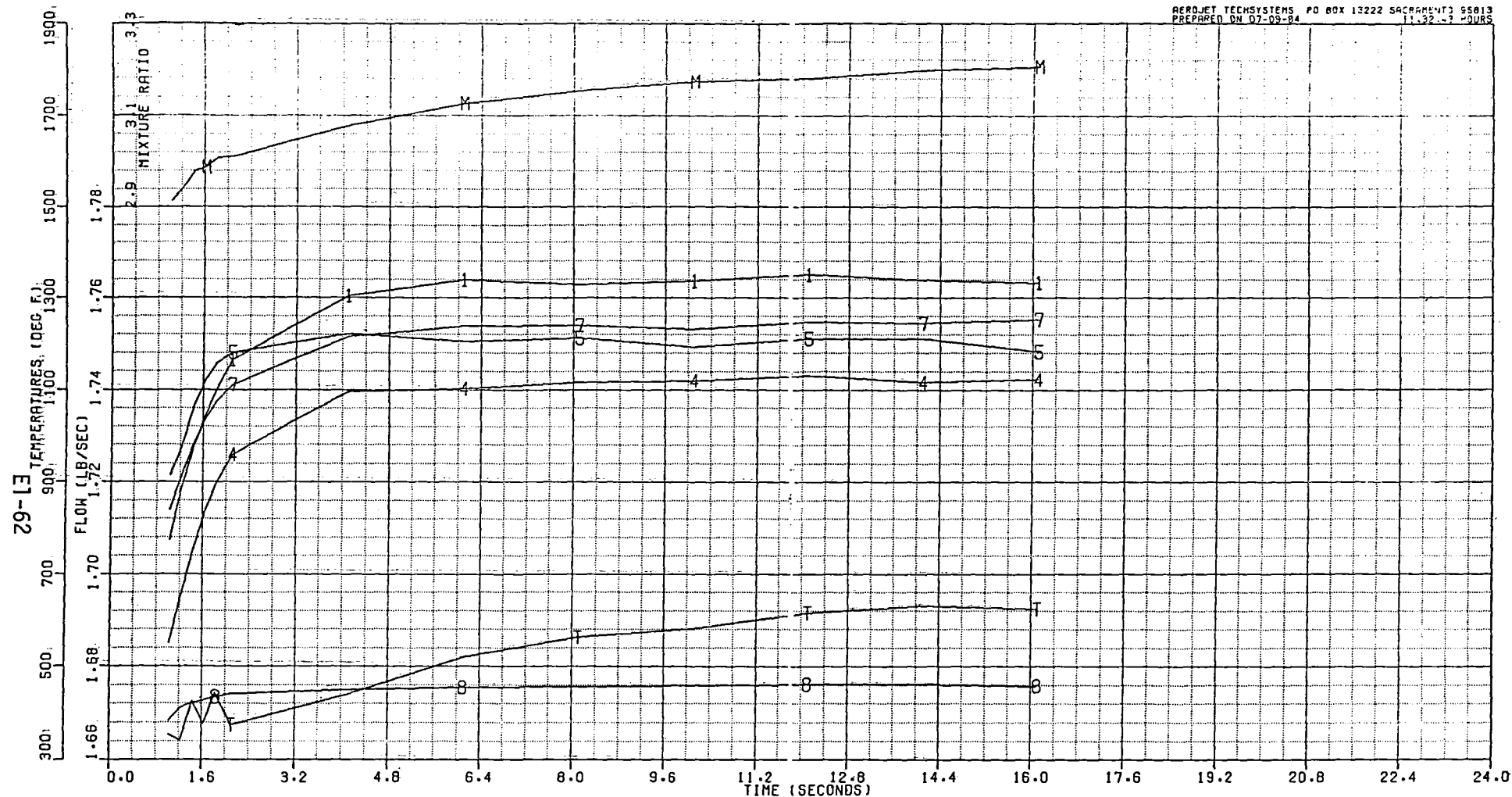
TEST DATE 05-03-84 1257 HOURS AVERAGED DATA



1 TC-1 DEG F
 2 TC-2 DEG F
 3 TC-3 DEG F
 5 TC-5 DEG F
 T WTOT LBS/SEC
 M MR

GAS SIDE WALL TEMPERATURE VS TIME NOZZLE
 TEST NO. RLBL-936-213

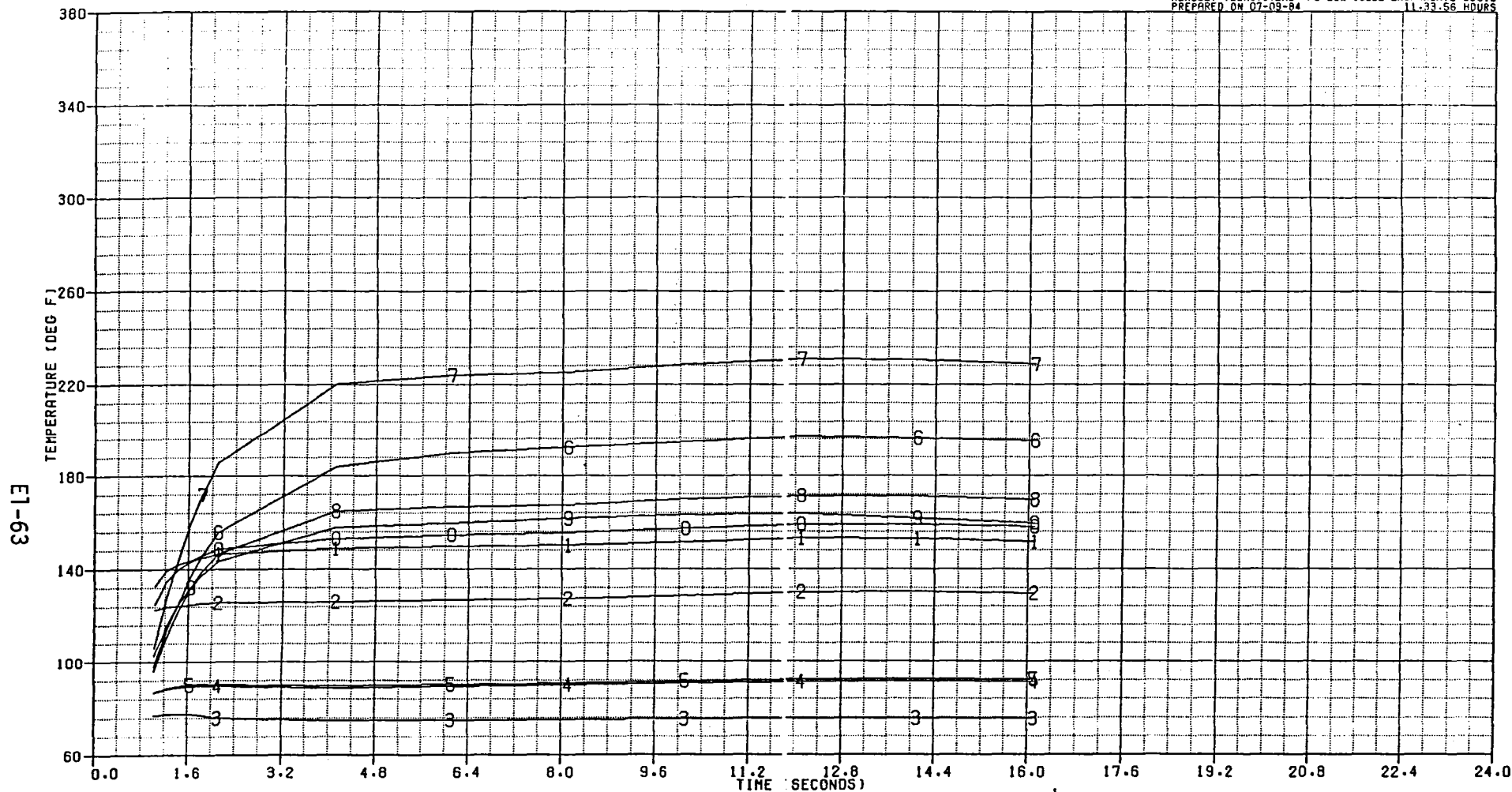
TEST DATE 05-03-84 1257 HOURS AVERAGED DATA



1 TC-7 DEG F
 4 TC-10 DEG F
 5 TC-12 DEG F
 7 TC-13 DEG F
 8 TC-3 DEG F
 T WTOT LBS/SEC
 M MR

GAS SIDE WALL TEMPERATURE VS TIME BARREL
 TEST NO. RLBL-936-213

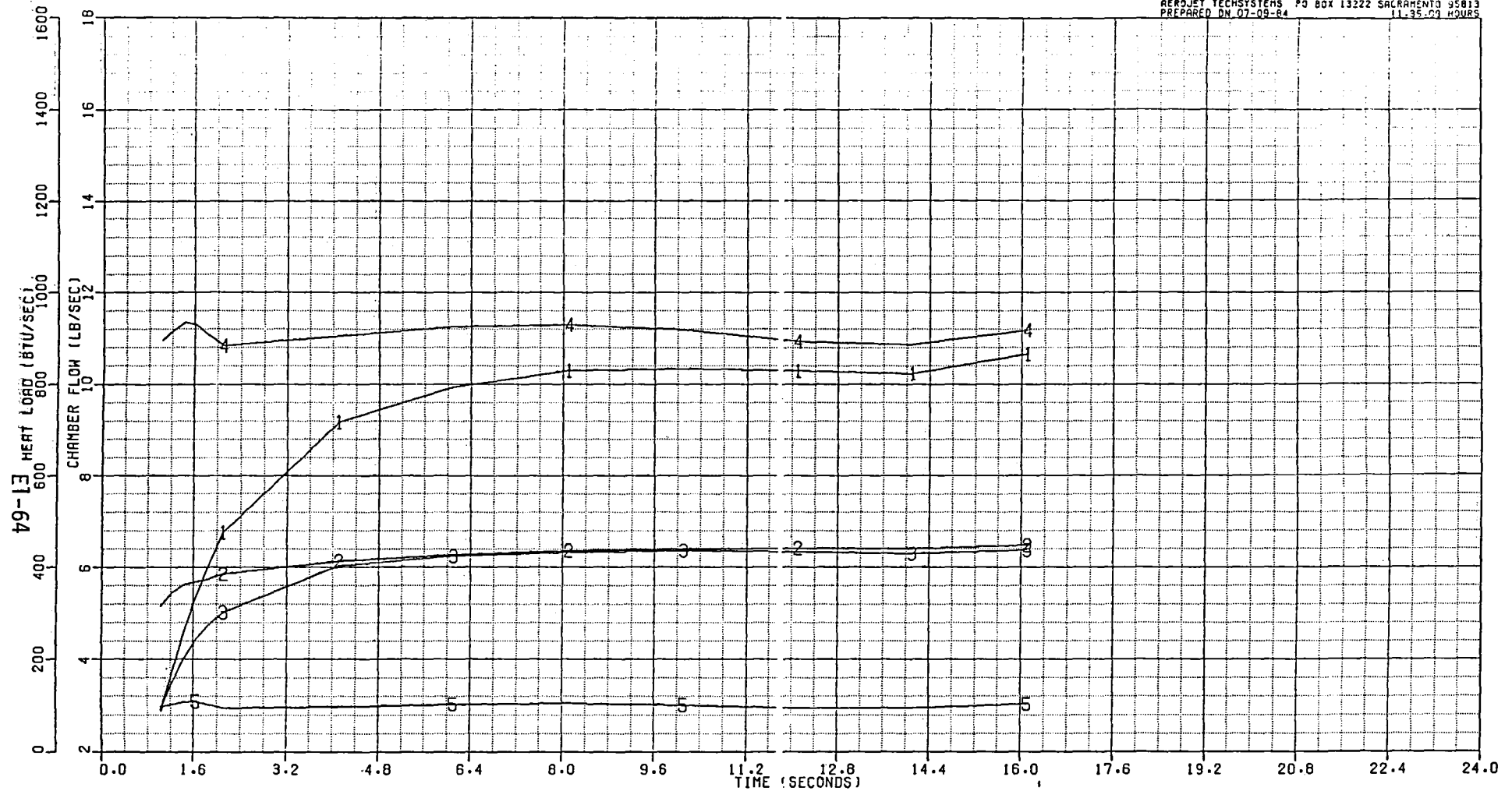
TEST DATE 05-03-84 1257 HOURS AVERAGED DATA



0 TWC-6	DEG F	8 TWC-31	DEG F
1 TWC-7	DEG F	9 TWC-32	DEG F
2 TWC-10	DEG F		
3 TWC-21	DEG F		
4 TWC-22	DEG F		
5 TWC-23	DEG F		
6 TWC-26	DEG F		
7 TWC-27	DEG F		

COOLANT OUTLET TEMPERATURE VS TIME NO 1
 TEST NO. RLBL-936-213

TEST DATE 05-03-84 1257 HOURS AVERAGED DATA

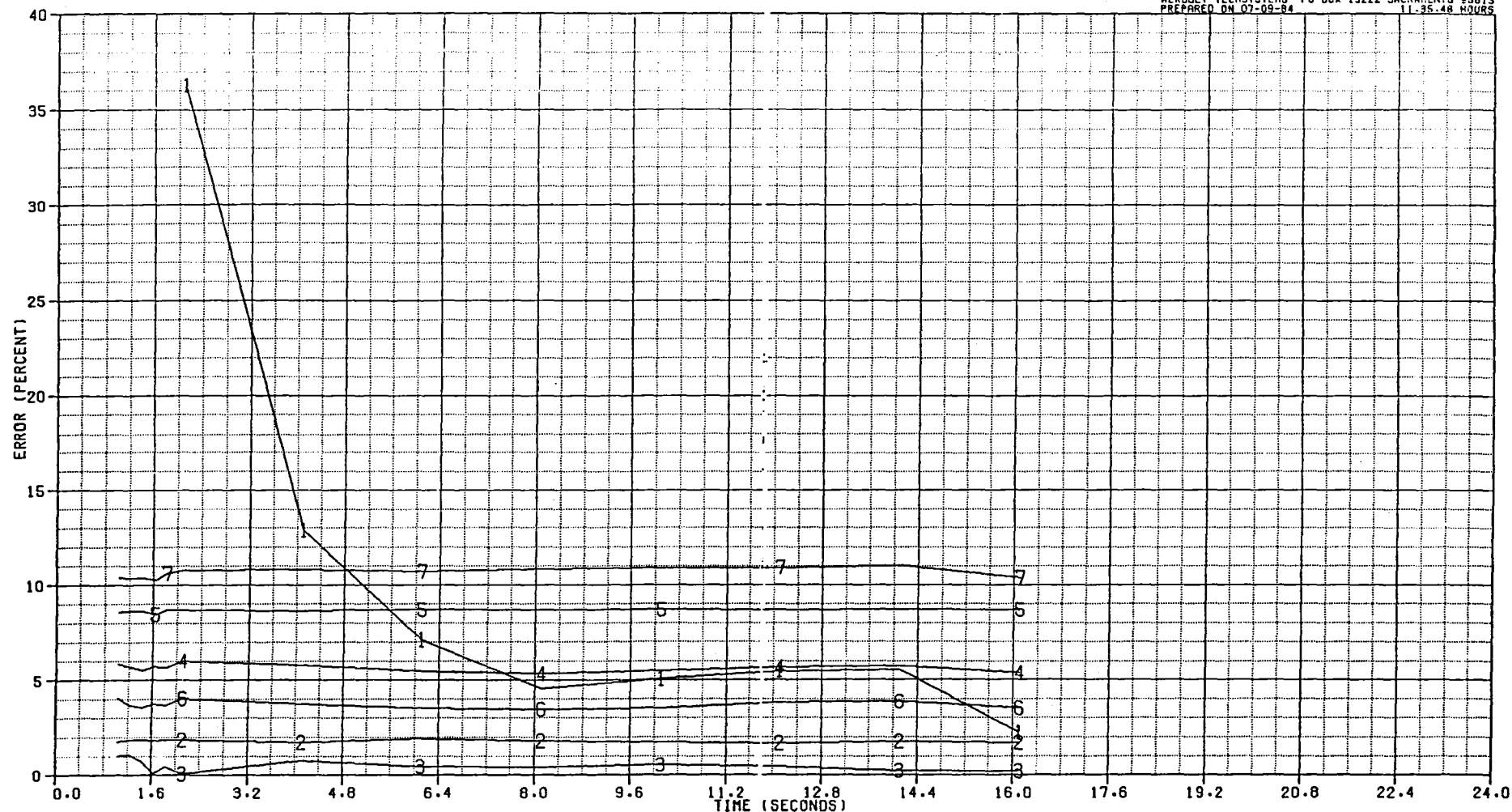


1 QNT BTU/SEC
 2 QNT BTU/SEC
 3 Q8BT BTU/SEC
 4 WM1 LBS/SEC
 5 WM2 LBS/SEC

CHAMBER FLOW AND HEAT LOAD VS TIME
 TEST NO. RLBL-936-213

TEST DATE 05-03-84 1257 HOURS AVERAGED DATA

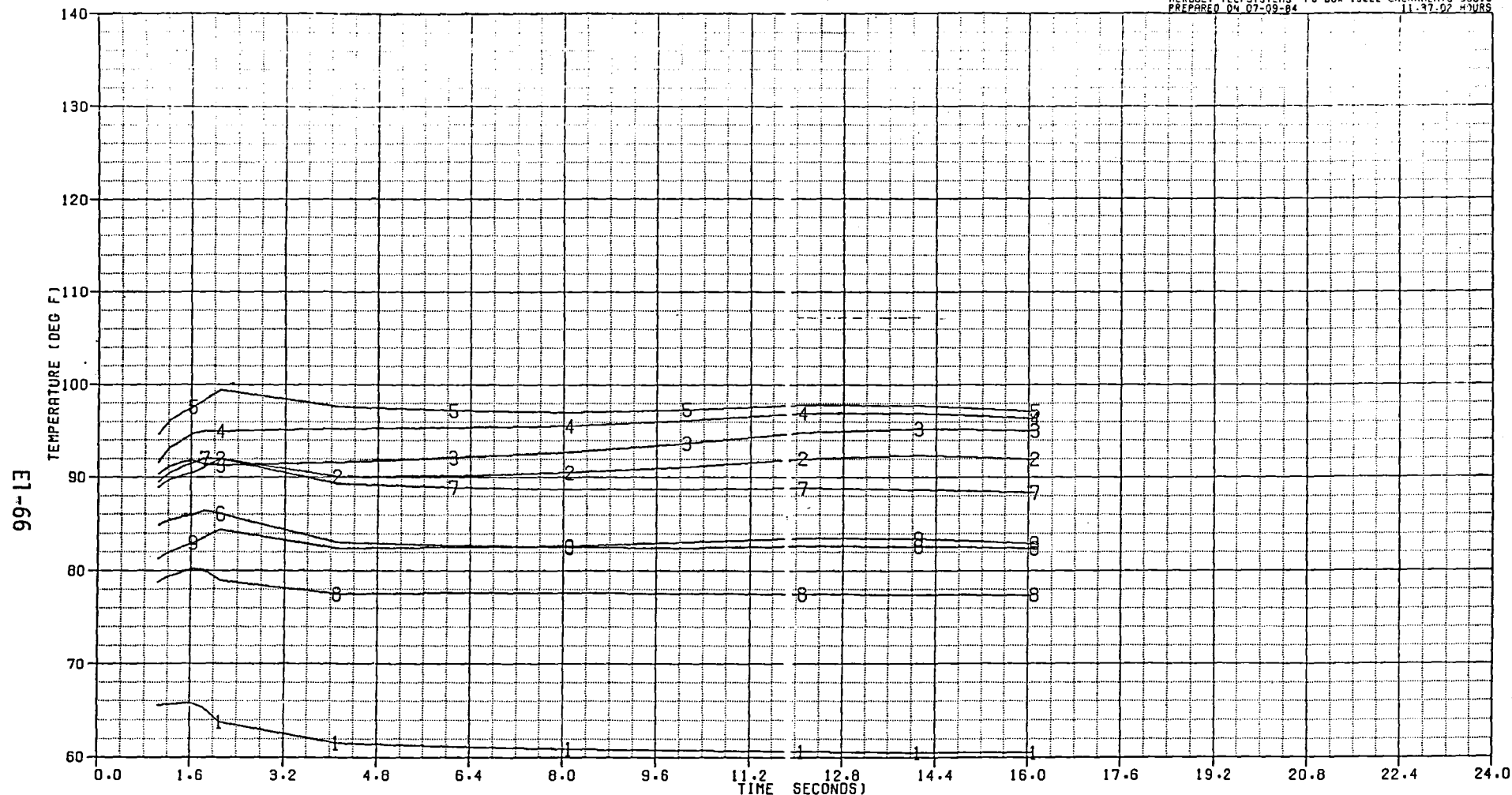
E1-65



1 QERM PERCENT
 2 WERNT PERCENT
 3 WER88T PERCENT
 4 WER12B1 PERCENT
 5 WER12B3 PERCENT
 6 WER12B5 PERCENT
 7 WERN10 PERCENT

CHAMBER FLOW + HEAT LOAD ERRORS VS TIME
 TEST NO. RLBL-936-213

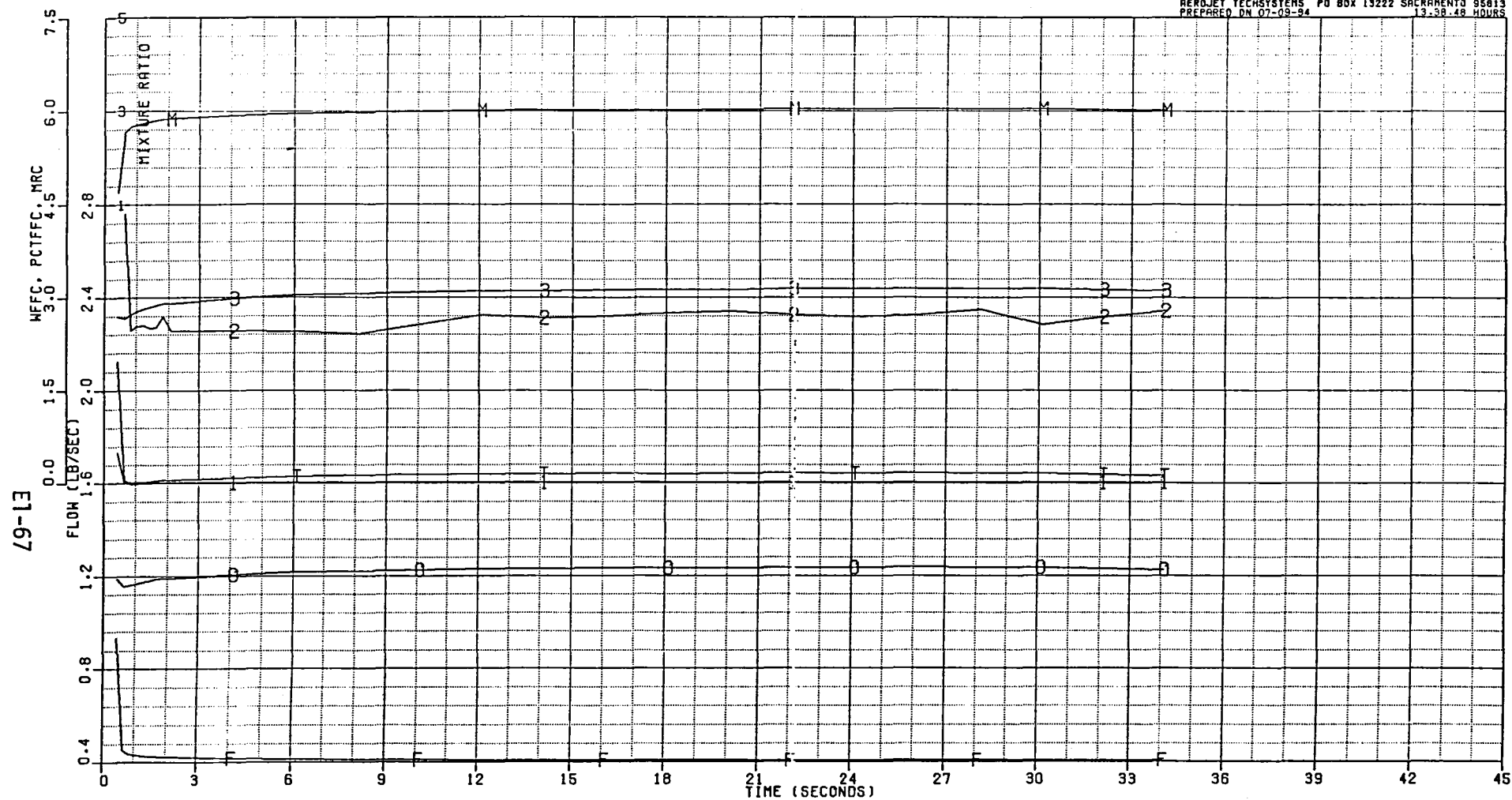
TEST DATE 05-03-84 1257 HOURS AVERAGED DATA



1 TWC-1 DEG F
 2 TWC-13 DEG F
 3 TWC-14 DEG F
 4 TWC-15 DEG F
 5 TWC-16 DEG F
 6 TWC-17 DEG F
 7 TWC-18 DEG F
 8 TWC-19 DEG F
 9 TWC-20 DEG F

COOLANT OUTLET TEMPERATURE VS TIME NO 2
 TEST NO. RLBL-936-213

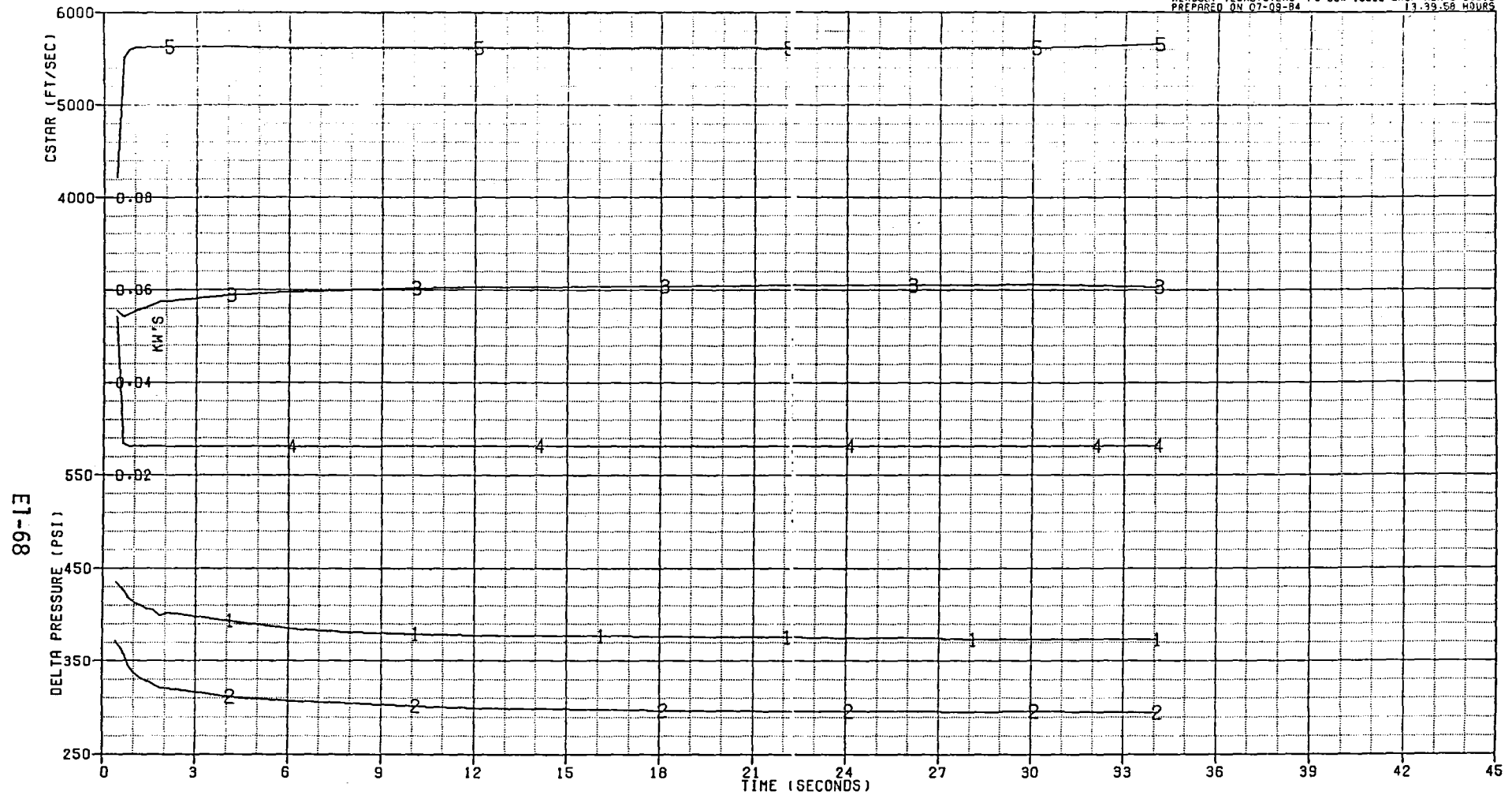
TEST DATE 05-03-84 1257 HOURS AVERAGED DATA



F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR
 1 WFFC LBS/SEC
 2 PCTFFC PERCENT
 3 MRC

INJECTOR FLOW VS TIME
 TEST NO. RLBL-936-214

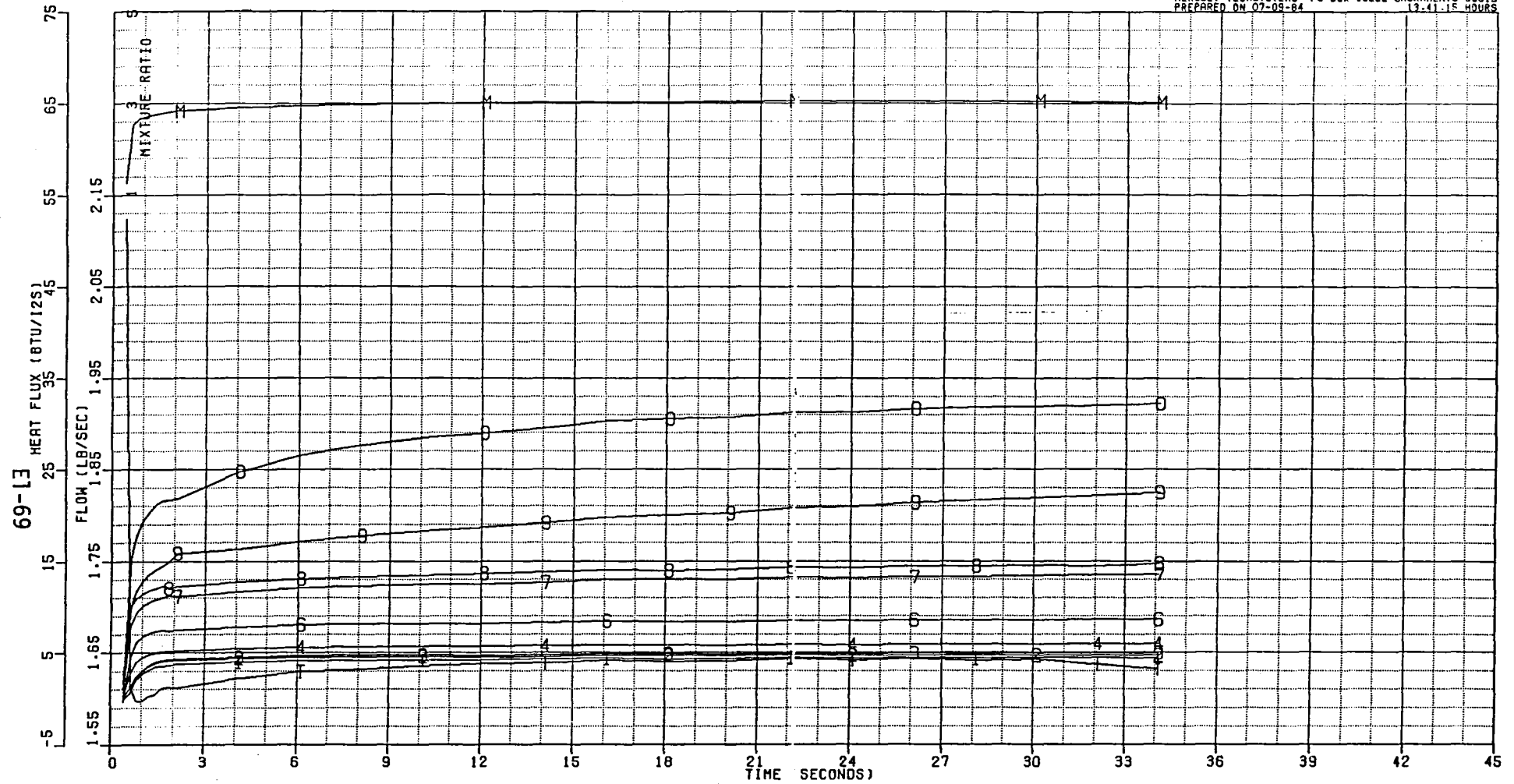
TEST DATE 05-03-84 1432 HOURS AVERAGED DATA



1 DPOJ PSI
 2 DPFJ PSI
 3 KWOJ PSI
 4 KWFJ PSI
 5 CSTRMC FT/SEC

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLBL-936-214

TEST DATE 05-03-84 1432 HOURS AVERAGED DATA

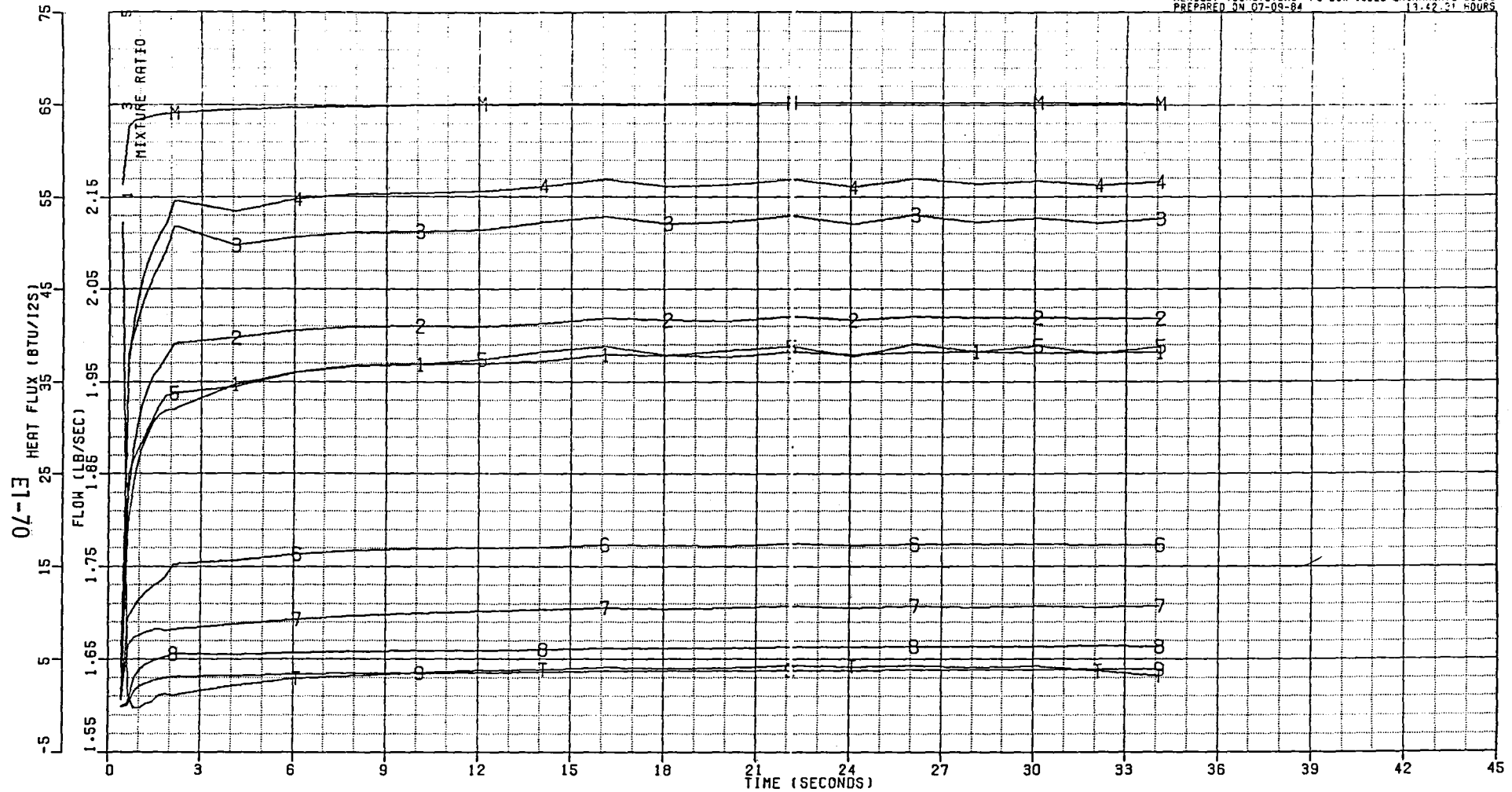


1 Q/AN1-2	BTU/12S	0 Q/AN5	BTU/12S
2 Q/AN1-3	BTU/12S	T WTOT	LBS/SEC
3 Q/AN2-1	BTU/12S	M MR	
4 Q/AN2-2.-3	BTU/12S		
6 Q/AN3-1	BTU/12S		
7 Q/AN3-2	BTU/12S		
8 Q/AN3-3	BTU/12S		
9 Q/AN4	BTU/12S		

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-214

NOZZLE DATA

TEST DATE 05-03-84 1432 HOURS AVERAGED DATA

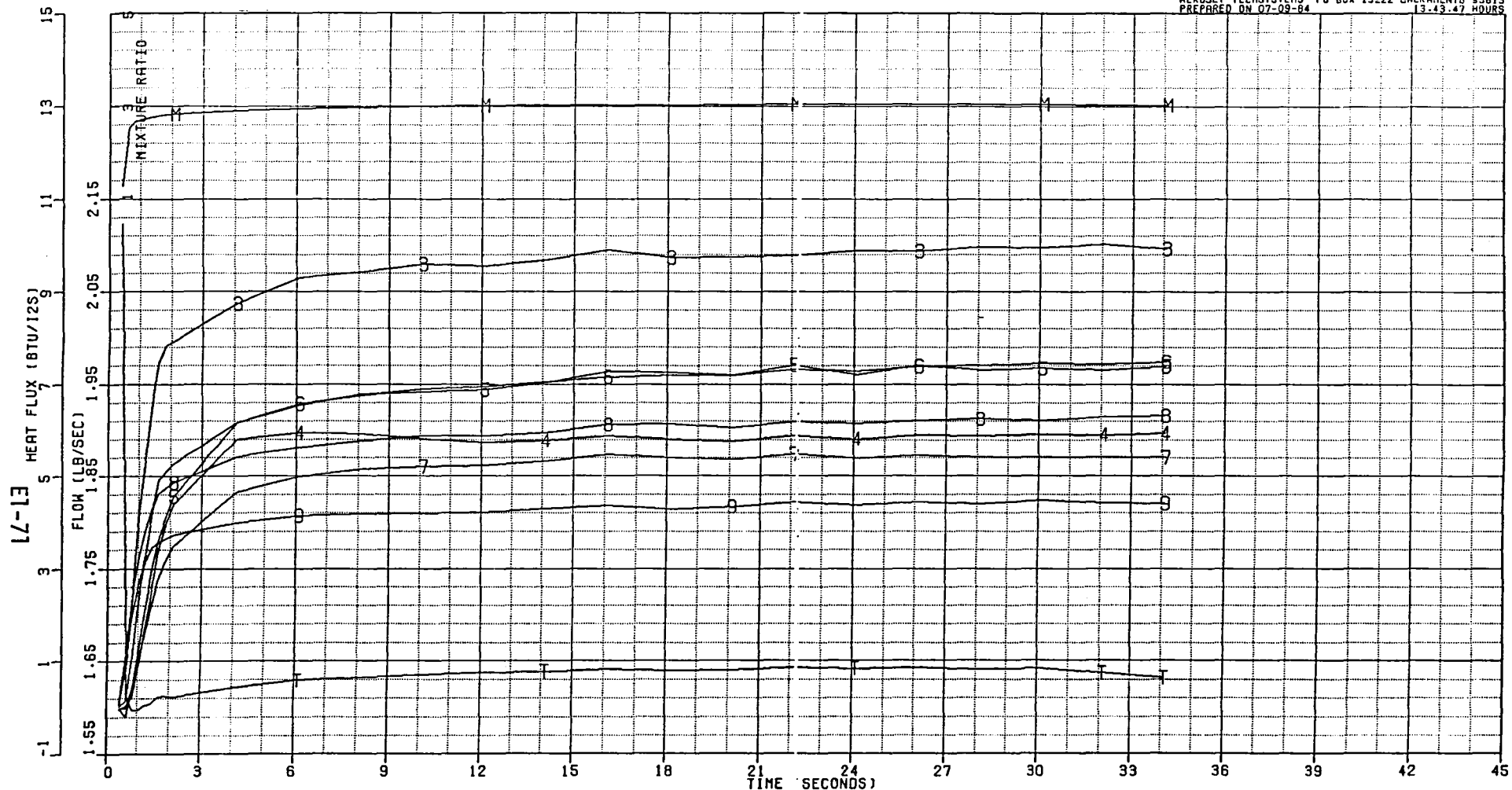


1 Q/AN6	BTU/12S	9 Q/AN12-3	BTU/12S
2 Q/AN7	BTU/12S	T WTOT	LBS/SEC
3 Q/AN8	BTU/12S	M MR	
4 Q/AN9	BTU/12S		
5 Q/AN10	BTU/12S		
6 Q/AN11	BTU/12S		
7 Q/AN12-1	BTU/12S		
8 Q/AN12-2	BTU/12S		

HEAT FLUX (Q/A) VS TIME
TEST NO. RLBL-936-214

NOZZLE DATA

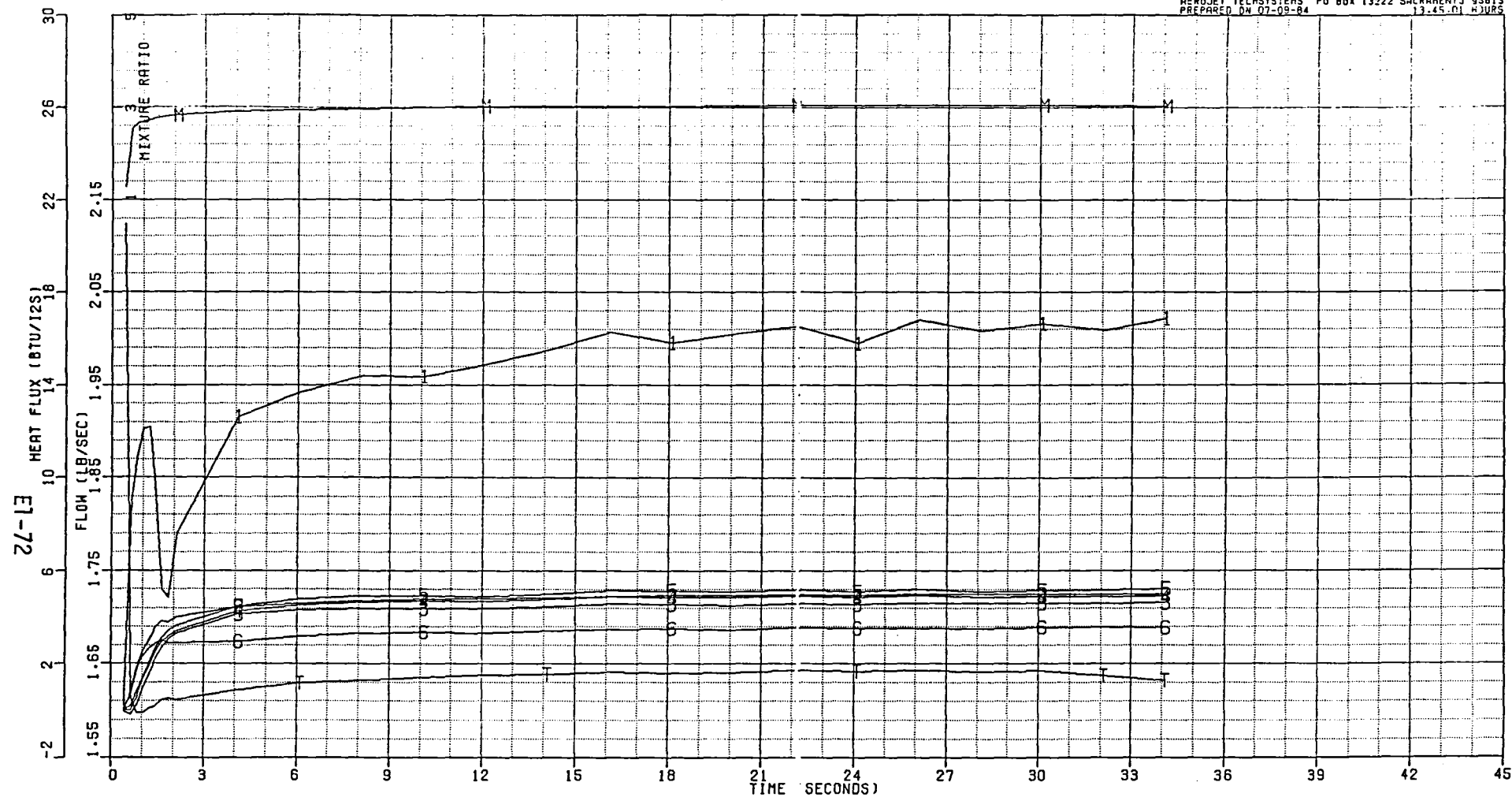
TEST DATE 05-03-84 1432 HOURS AVERAGED DATA



3 Q/ABB1-1 BTU/12S M MR
4 Q/ABB2 BTU/12S
5 Q/ABB1-2 BTU/12S
6 Q/ABB4-1 BTU/12S
7 Q/ABB4-2.3 BTU/12S
8 Q/AN1-1 BTU/12S
9 Q/AN1-2 BTU/12S
T WTOT LBS/SEC

HEAT FLUX (Q/A) VS TIME BARREL DATA
TEST NO. RLBL-936-214

TEST DATE 05-03-84 1432 HOURS AVERAGED DATA

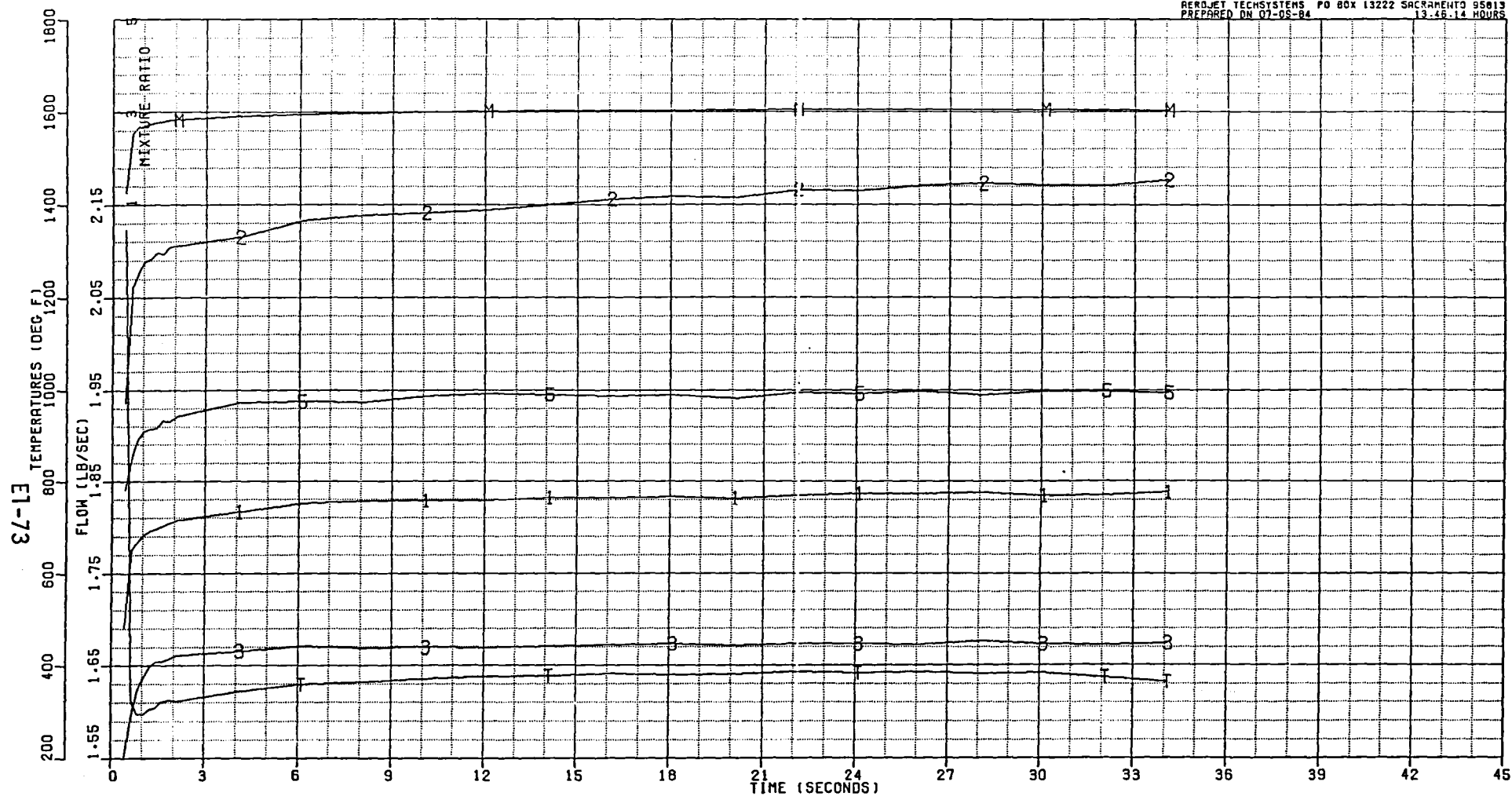


1 Q/ATRC BTU/I2S
 2 Q/A12B6-1 BTU/I2S
 3 Q/A12B6-2.5 BTU/I2S
 4 Q/A12B3.4 BTU/I2S
 5 Q/A12B1-2.2 BTU/I2S
 6 Q/A12B1-1 BTU/I2S
 T WTOT LB/SEC
 M MR

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-214

MISC. DATA

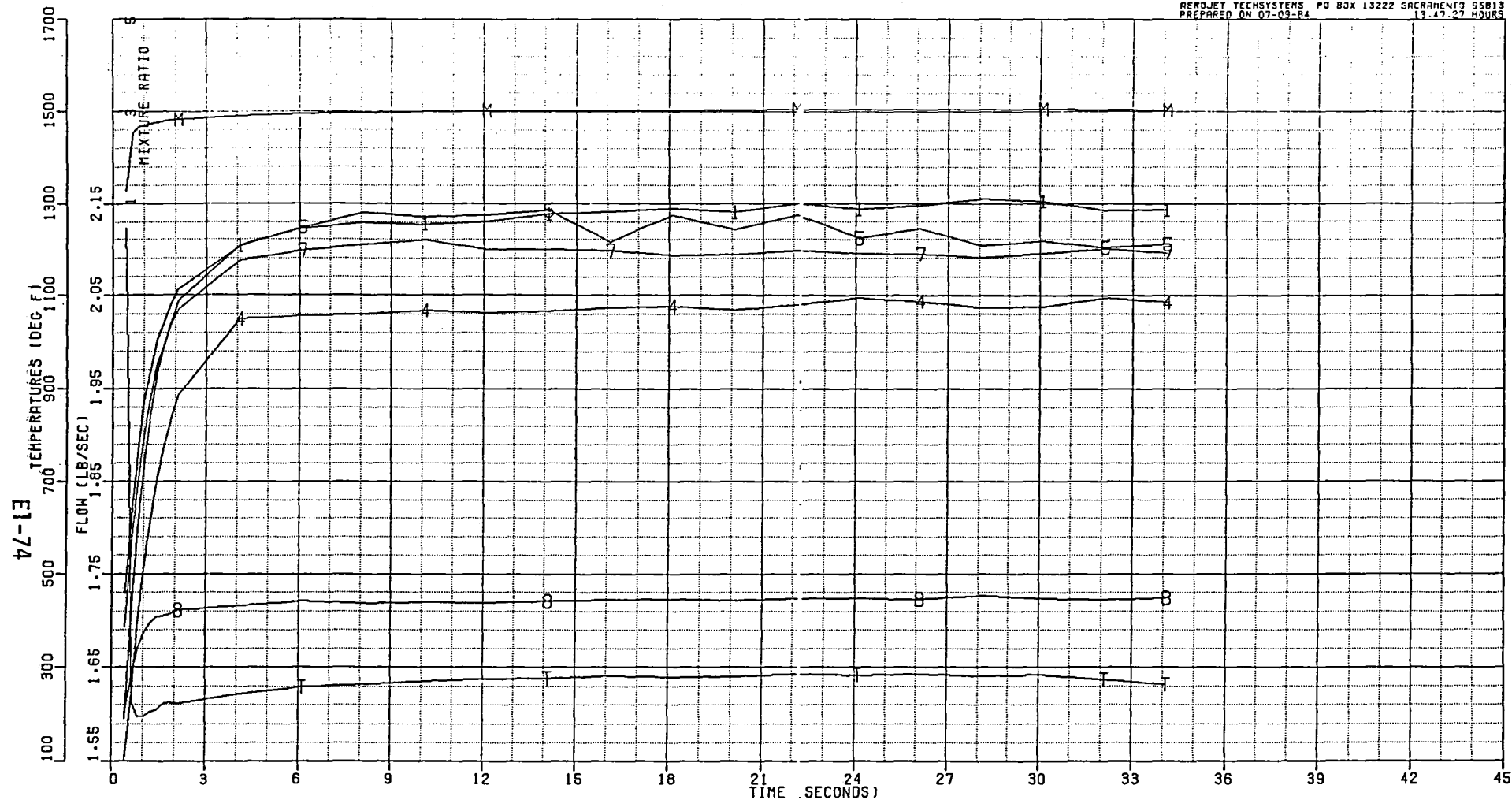
TEST DATE 05-03-84 1432 HOURS AVERAGED DATA



1 TC-1 DEG F
 2 TC-2 DEG F
 3 TC-3 DEG F
 5 TC-5 DEG F
 T WTOT LBS/SEC
 M MR

GAS SIDE WALL TEMPERATURE VS TIME NOZZLE
 TEST NO. RLBL-936-214

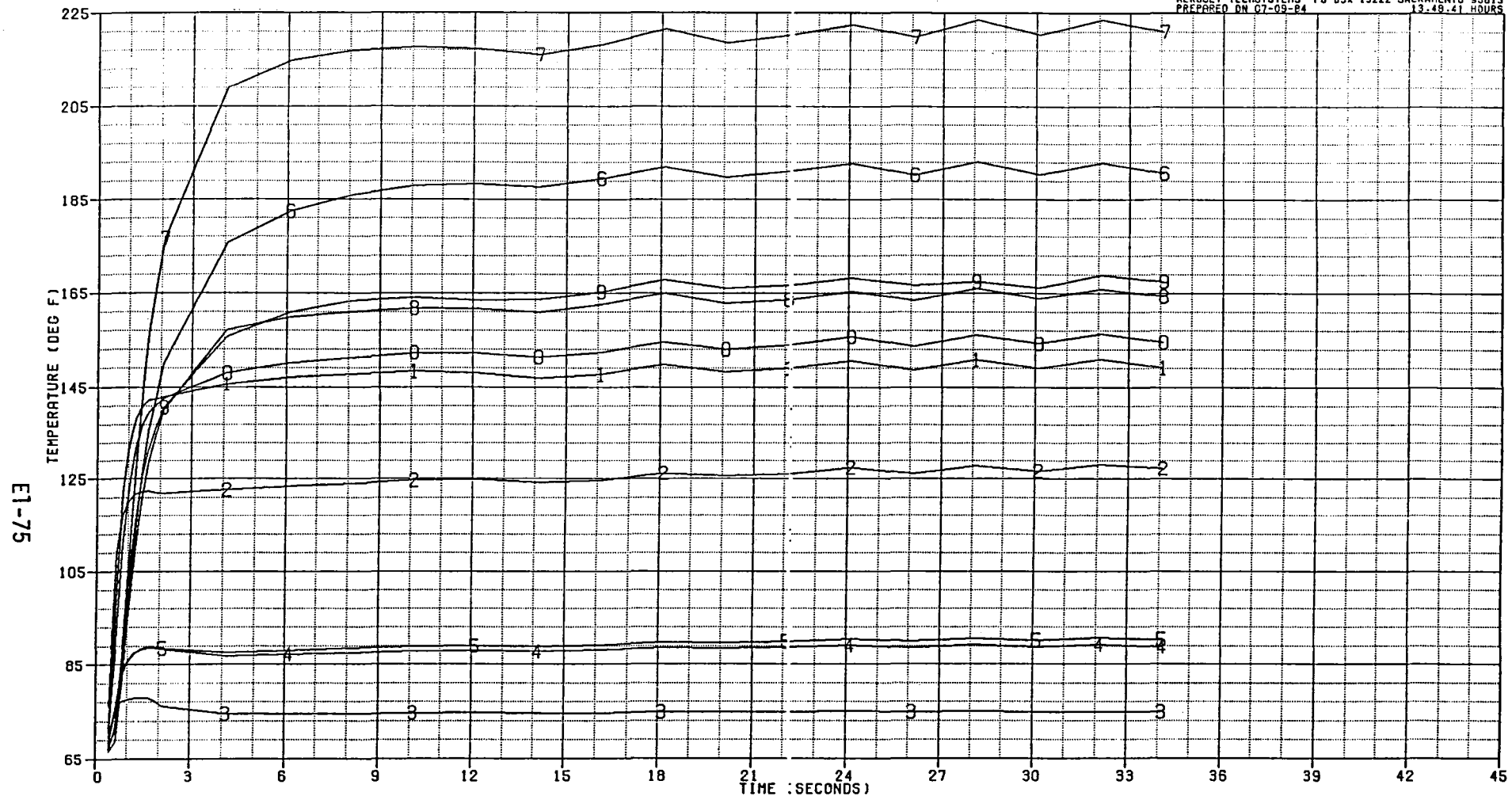
TEST DATE 05-03-84 1432 HOURS AVERAGED DATA



GAS SIDE WALL TEMPERATURE VS TIME BARREL
 TEST NO. RLBL-936-214

TEST DATE 05-03-84 1432 HOURS AVERAGED DATA

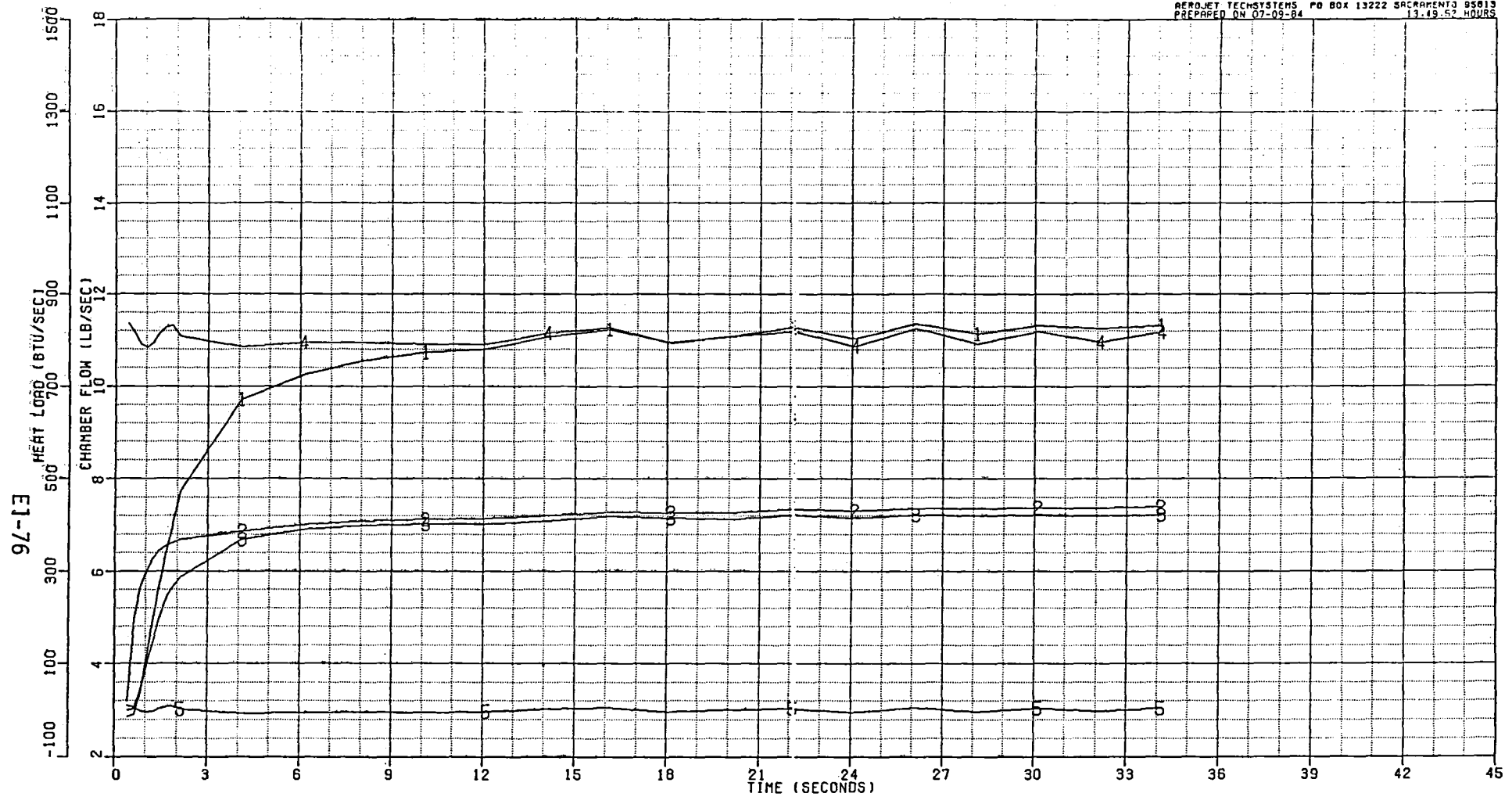
1 TC-7 DEG F
 4 TC-10 DEG F
 5 TC-12 DEG F
 7 TC-13 DEG F
 8 TC-3 DEG F
 T WTDI LBS/SEC
 M MR



0 TWC-6	DEG F	8 TWC-31	DEG F
1 TWC-7	DEG F	9 TWC-32	DEG F
2 TWC-10	DEG F		
3 TWC-21	DEG F		
4 TWC-22	DEG F		
5 TWC-23	DEG F		
6 TWC-26	DEG F		
7 TWC-27	DEG F		

COOLANT OUTLET TEMPERATURE VS TIME NO 1
 TEST NO. RLBL-936-214

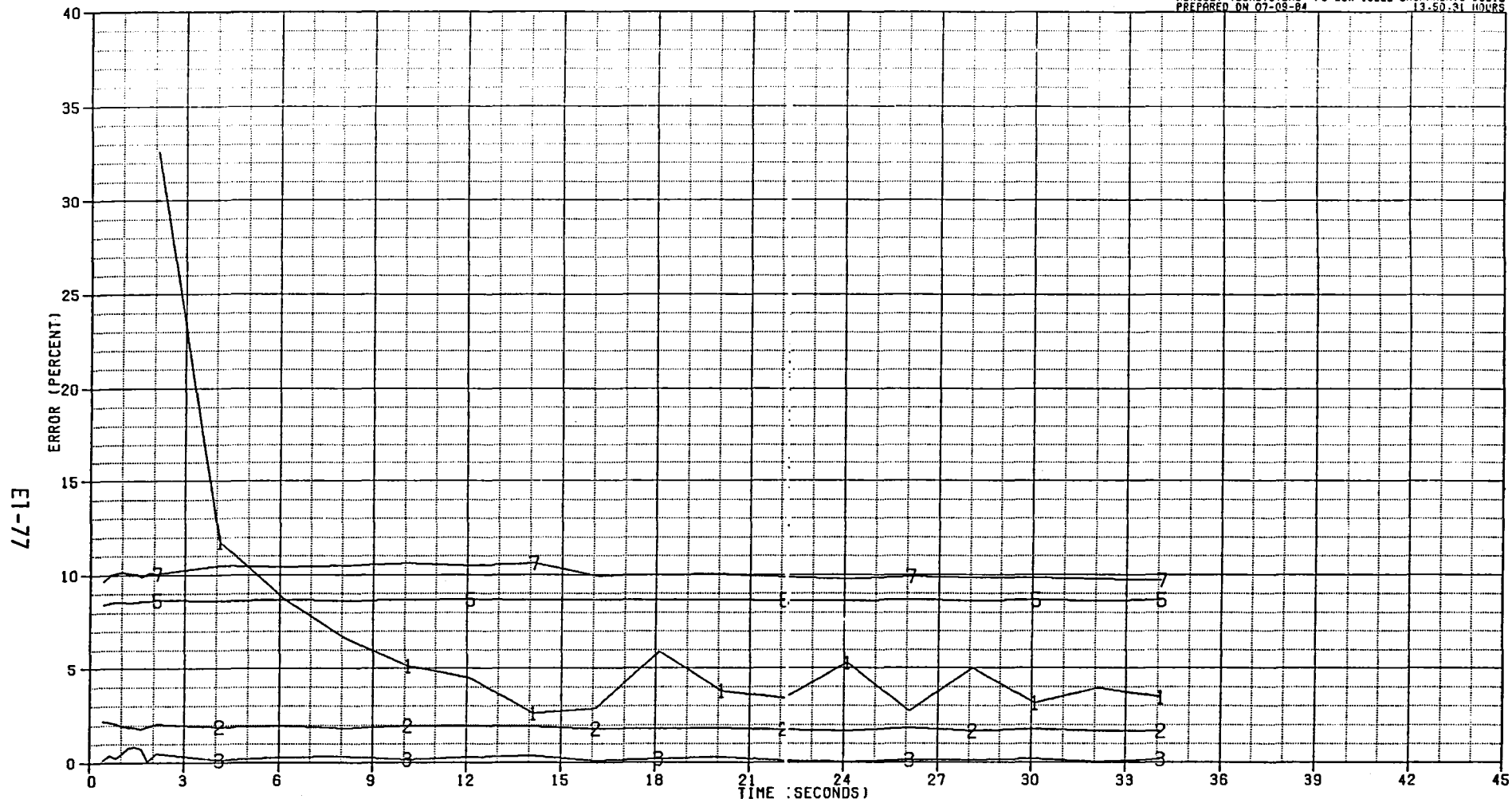
TEST DATE 05-03-84 1432 HOURS AVERAGED DATA



1 QM BTU/SEC
2 QNT BTU/SEC
3 QBBT BTU/SEC
4 WW1 LBS/SEC
5 WW2 LBS/SEC

CHAMBER FLOW AND HEAT LOAD VS TIME
TEST NO. RLBL-936-214

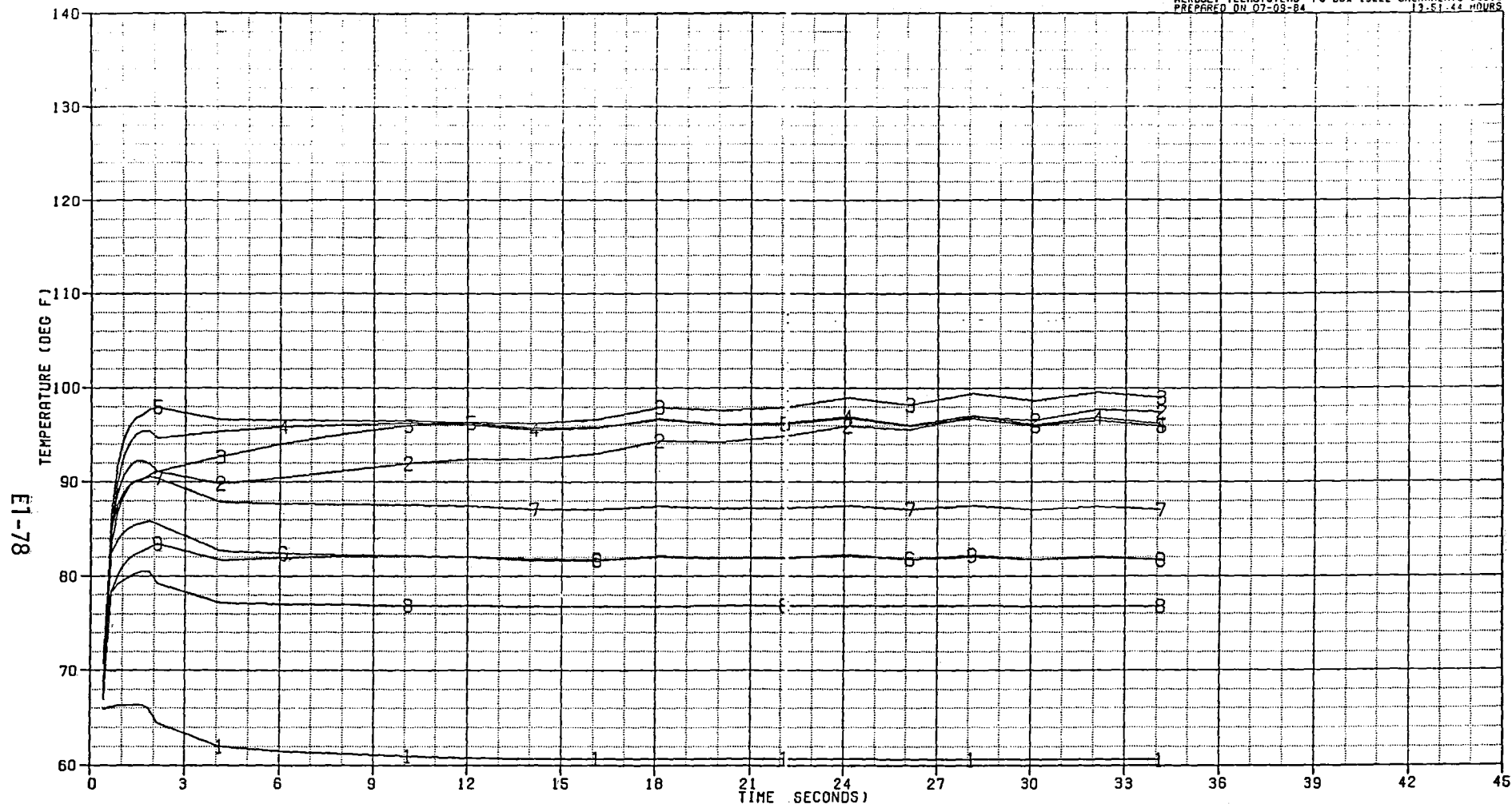
TEST DATE 05-03-84 1432 HOURS AVERAGED DATA



1 QERM PERCENT
 2 WERNT PERCENT
 3 WER8BT PERCENT
 4 WER12B1 PERCENT
 5 WER12B3 PERCENT
 6 WER12B5 PERCENT
 7 WERN10 PERCENT

CHAMBER FLOW + HEAT LOAD ERRORS VS TIME
 TEST NO. RLBL-936-214

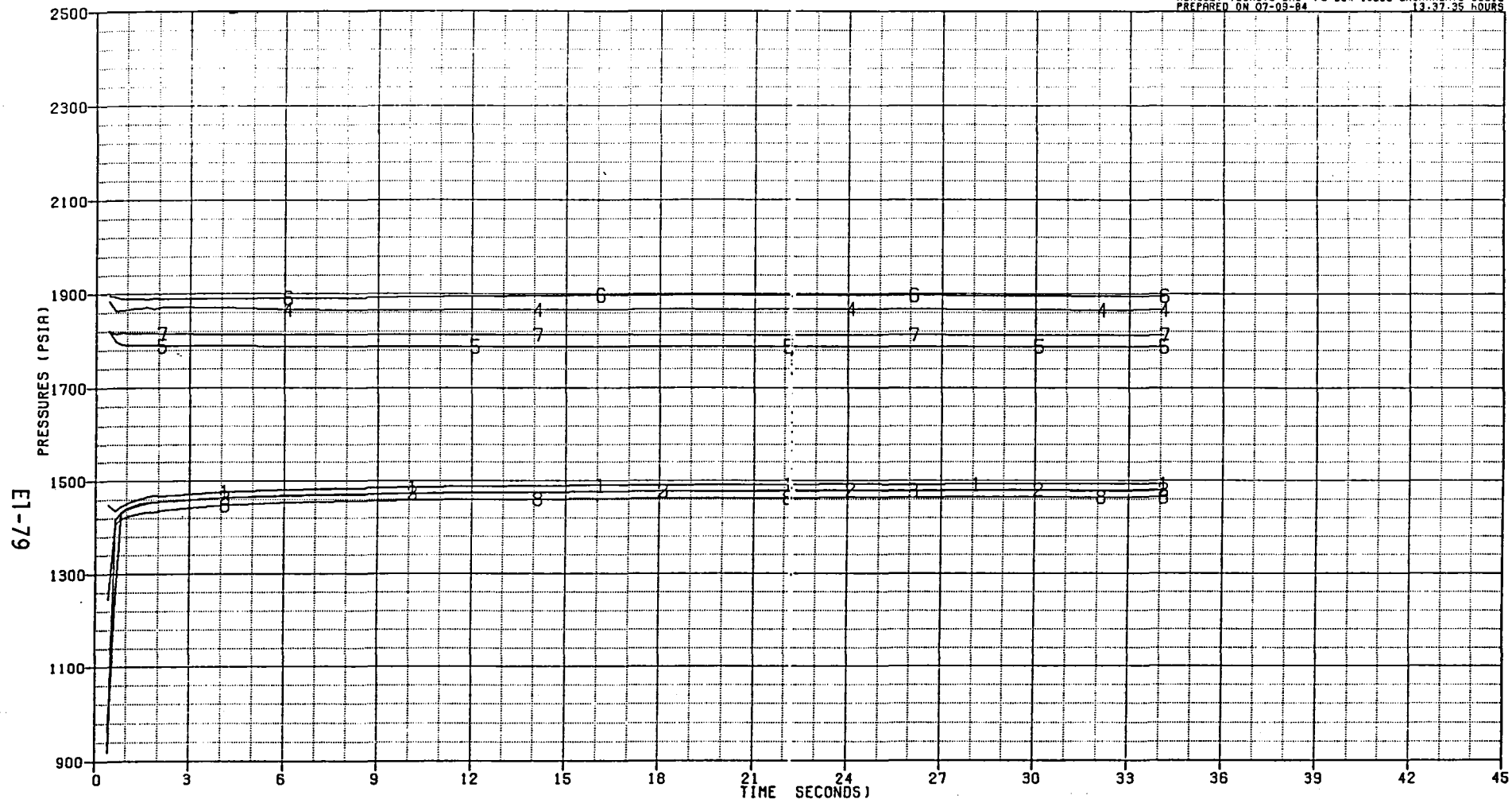
- TEST DATE 05-03-84 1432 HOURS AVERAGED DATA



1 TWC-1 DEG F
 2 TWC-13 DEG F
 3 TWC-14 DEG F
 4 TWC-15 DEG F
 5 TWC-16 DEG F
 6 TWC-17 DEG F
 7 TWC-18 DEG F
 8 TWC-19 DEG F

COOLANT OUTLET TEMPERATURE VS TIME NO 2
 TEST NO. RLBL-936-214

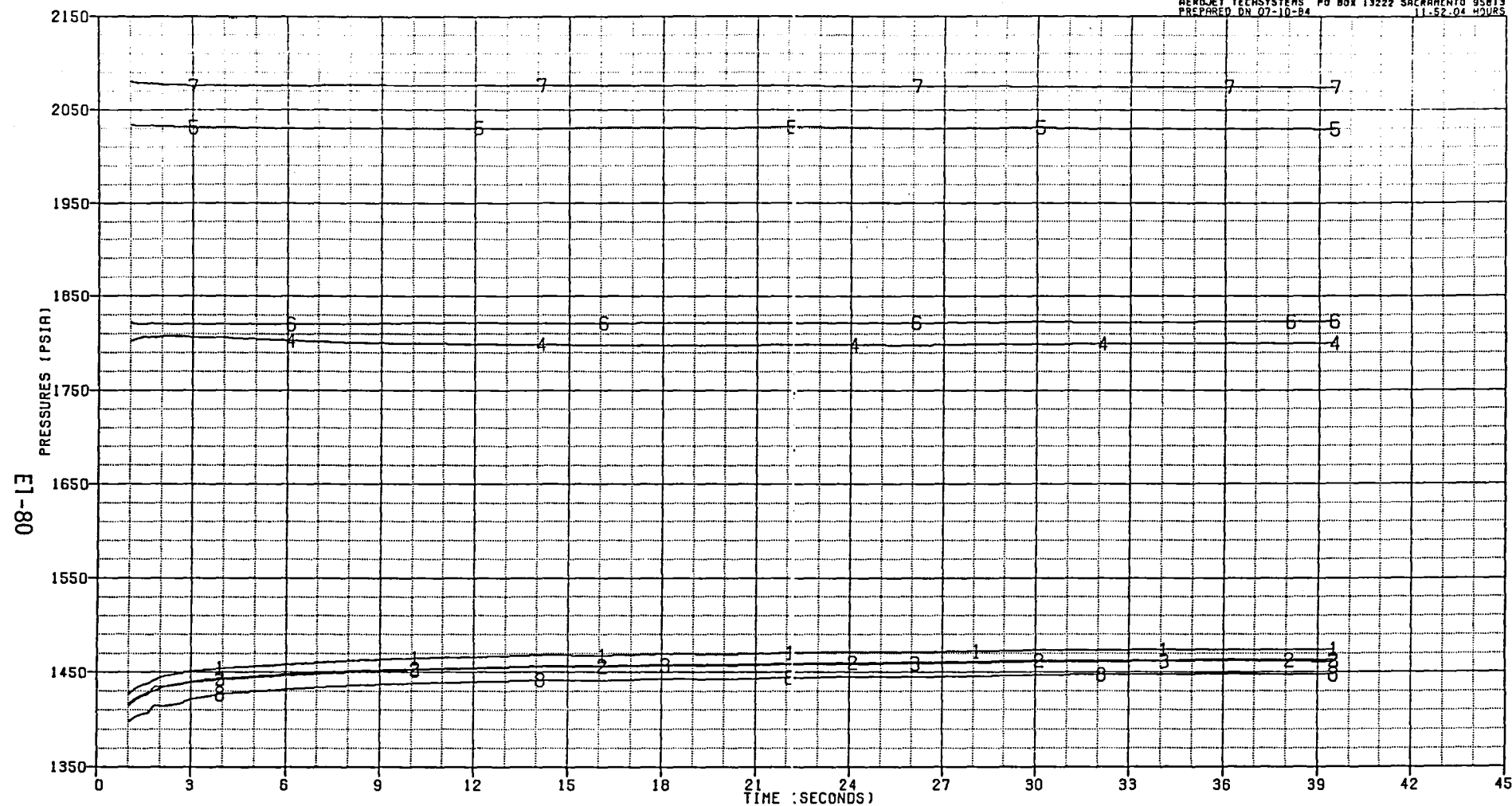
TEST DATE 05-03-84 1432 HOURS AVERAGED DATA



1 PC-1 PSIA
 2 POJI PSIA
 3 PFJI PSIA
 4 POJ PSIA
 5 PFJ PSIA
 6 POT PSIA
 7 PFT PSIA
 8 PFC-1 PSIA

INJECTOR PRESSURES VS TIME TEST NO. RLBL-936-214

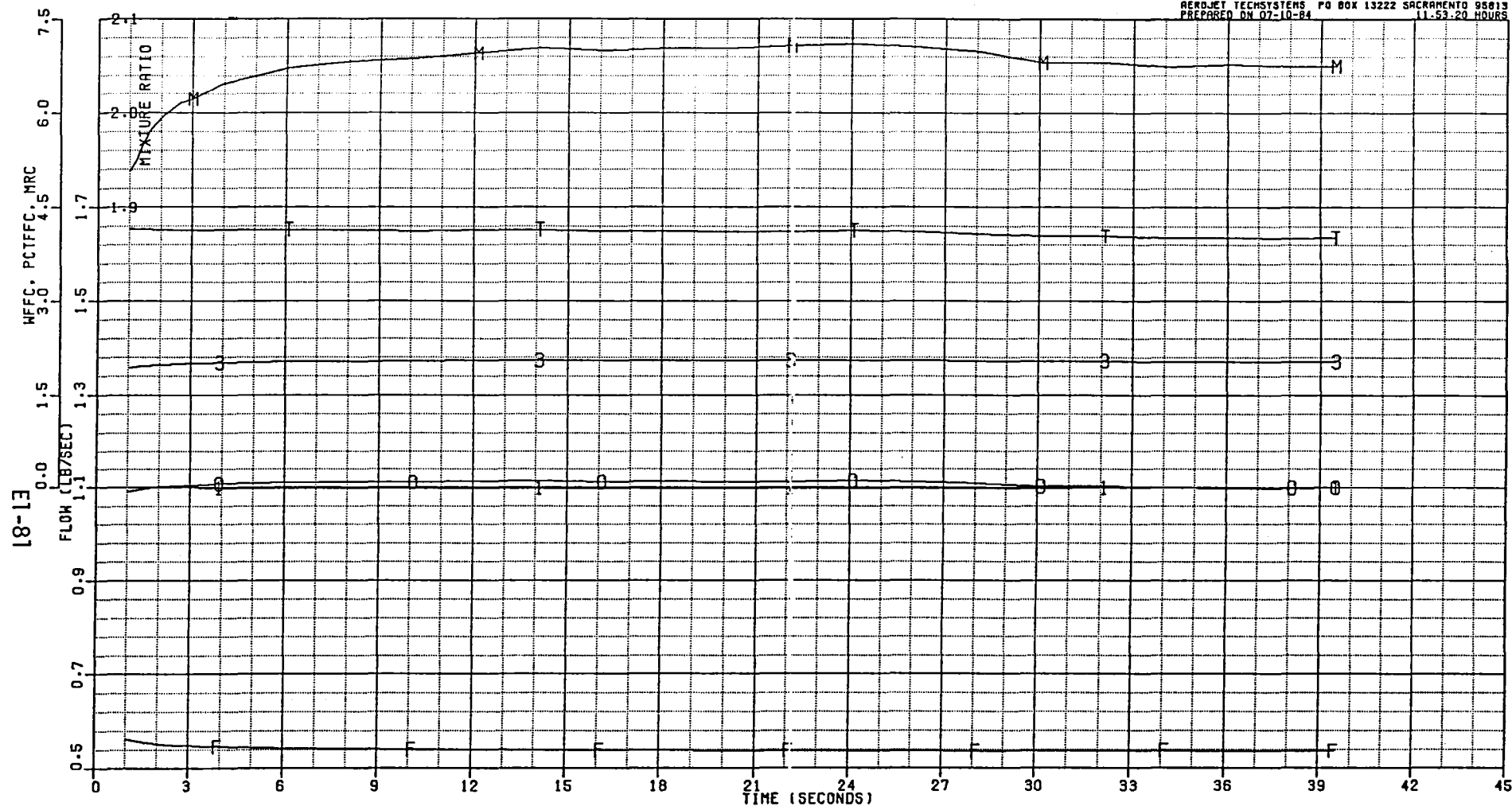
- TEST DATE 05-03-84 1432 HOURS AVERAGED DATA



1 PC-1 PSIA
 2 POJI PSIA
 3 PFJI PSIA
 4 POJ PSIA
 5 PFJ PSIA
 6 POT PSIA
 7 PFT PSIA
 8 PFC-1 PSIA

INJECTOR PRESSURES VS TIME TEST NO. RLBL-936-215

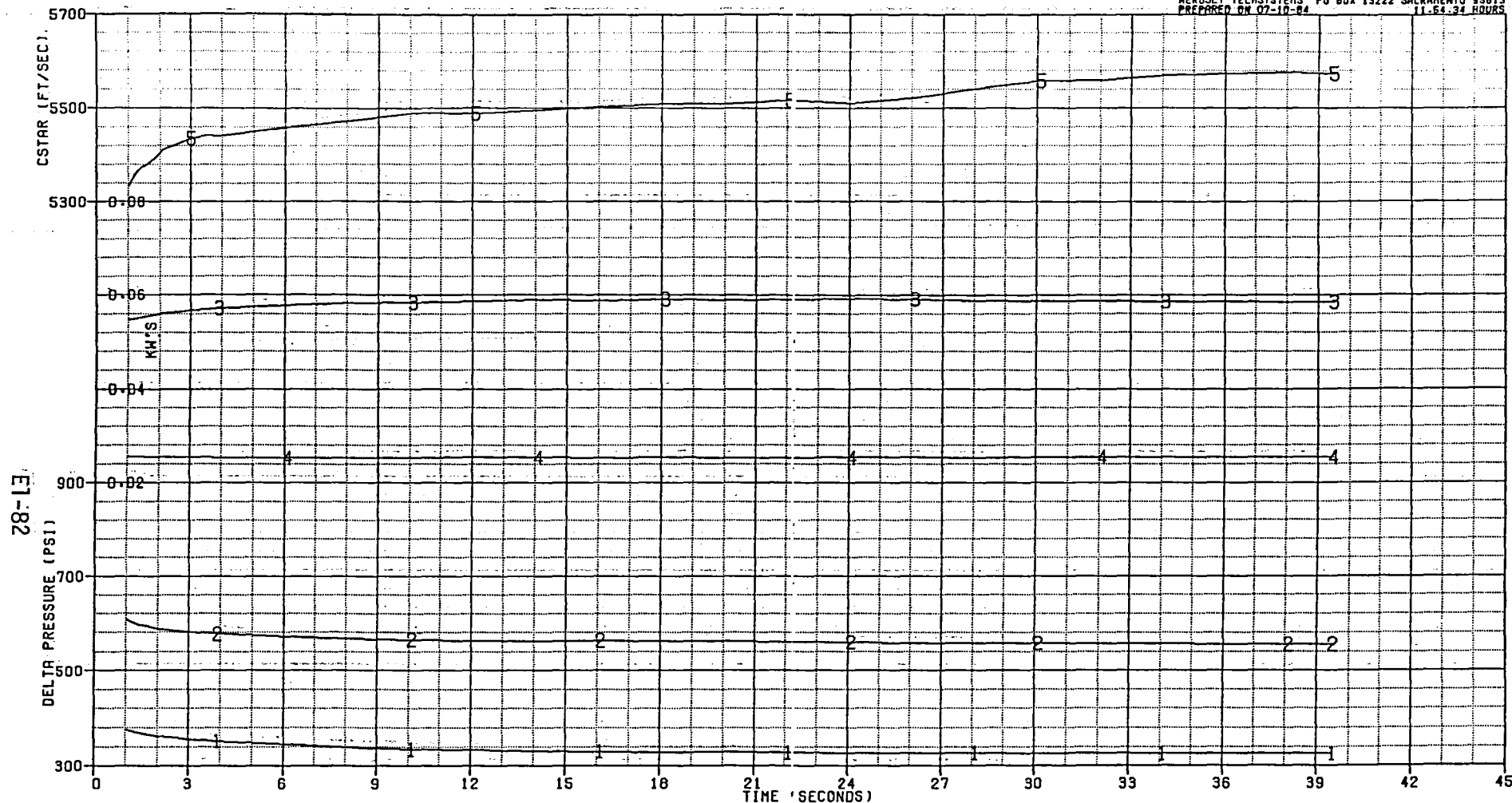
- TEST DATE 05-03-84 1528 HOURS AVERAGED DATA



F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR
 1 WFFC LBS/SEC
 2 PCTFFC PERCENT
 3 MRC

INJECTOR FLOW VS TIME TEST NO. RLBL-936-215

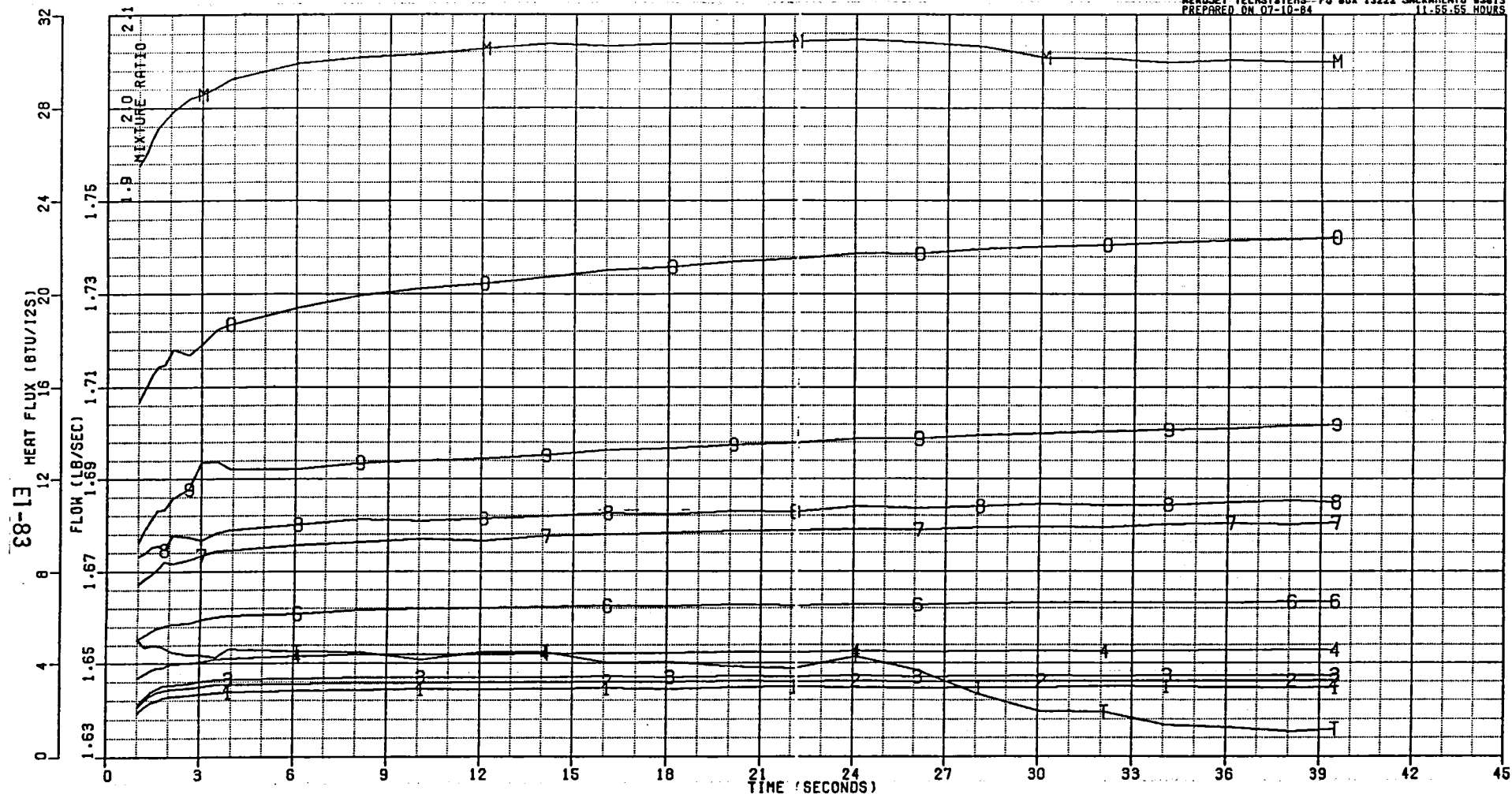
TEST DATE 05-03-84 1528 HOURS AVERAGED DATA



1 DPOJ PSI
 2 DPFJ PSI
 3 KWOJ
 4 KWFJ
 5 CSTRMC FT/SEC

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLBL-936-215

TEST DATE 05-03-84 1528 HOURS AVERAGED DATA

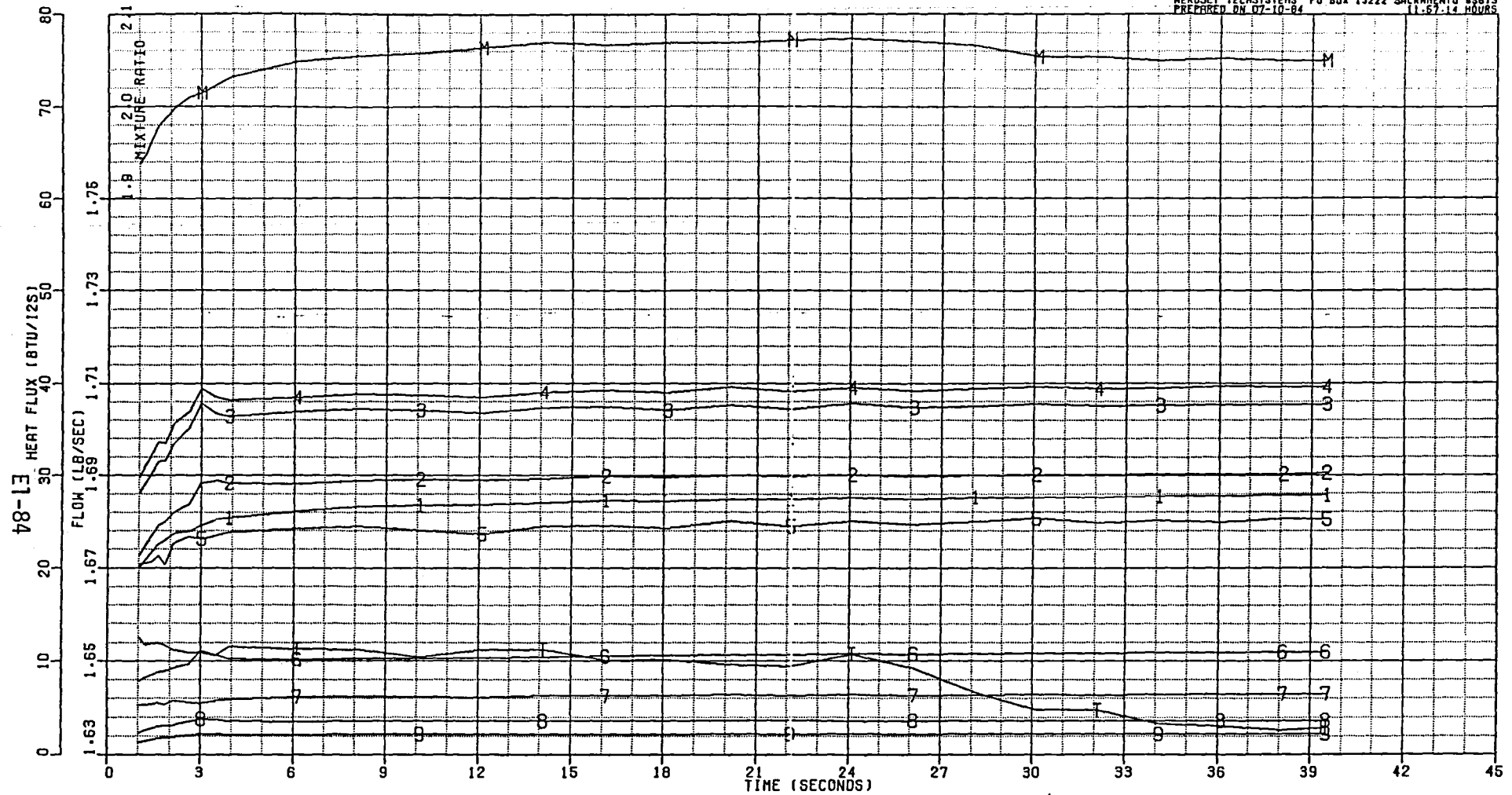


- 1 Q/AN1-2 BTU/125
- 2 Q/AN1-3 BTU/125
- 3 Q/AN2-1 BTU/125
- 4 Q/AN2-2,-3 BTU/125
- 6 Q/AN3-1 BTU/125
- 7 Q/AN3-2 BTU/125
- 8 Q/AN3-3 BTU/125
- 9 Q/AN4 BTU/125
- 0 Q/AN5 BTU/125
- T WTOT LBS/SEC
- M MR

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-215

NOZZLE DATA

TEST DATE 05-03-84 1528 HOURS AVERAGED DATA

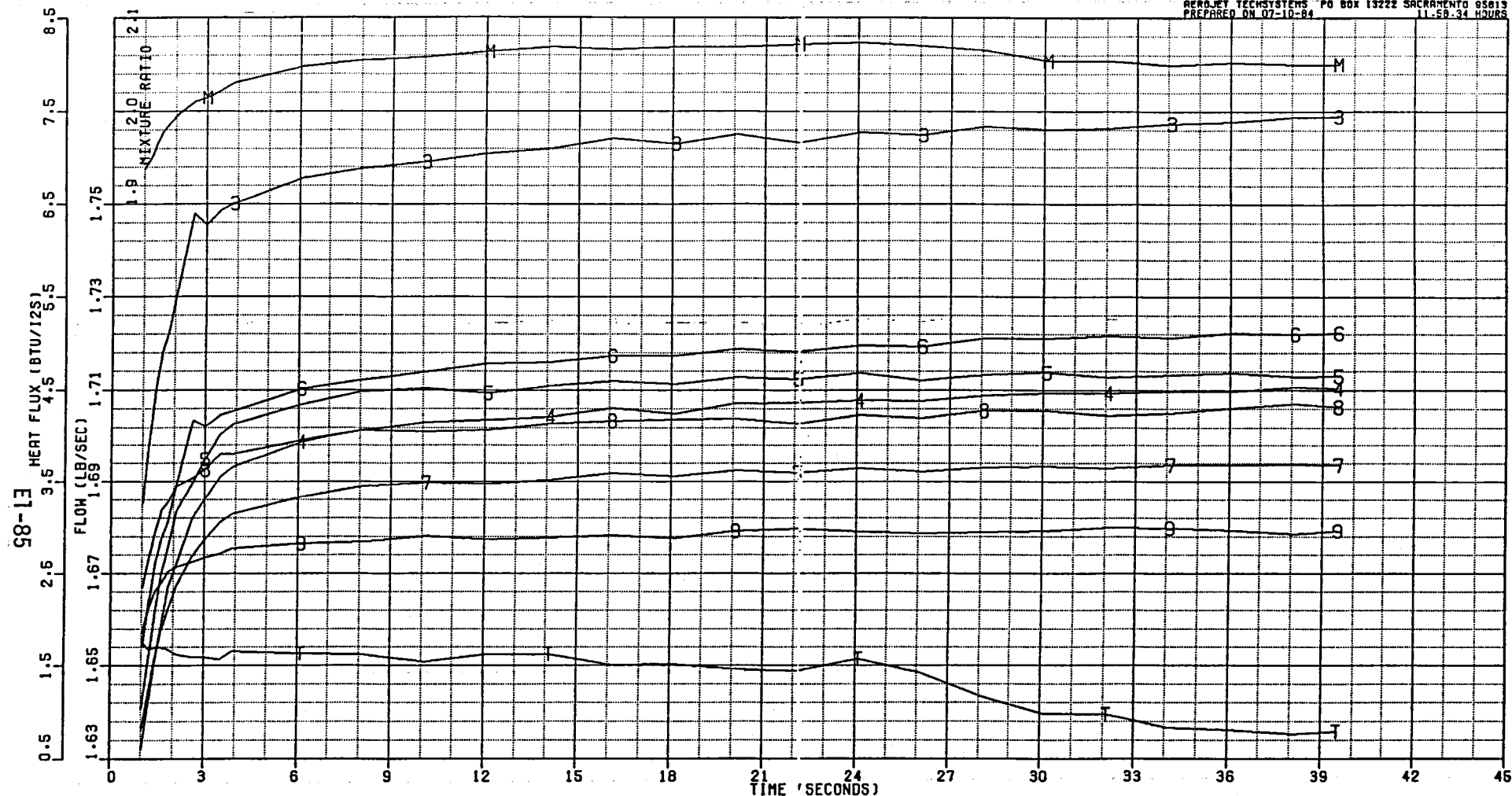


1 Q/AN6	BTU/12S	9 Q/AN12-3	BTU/12S
2 Q/AN7	BTU/12S	T WTOT	LBS/SEC
3 Q/AN8	BTU/12S	M MR	
4 Q/AN9	BTU/12S		
5 Q/AN10	BTU/12S		
6 Q/AN11	BTU/12S		
7 Q/AN12-1	BTU/12S		
8 Q/AN12-2	BTU/12S		

HEAT FLUX (Q/A) VS TIME
TEST NO. RLBL-936-215

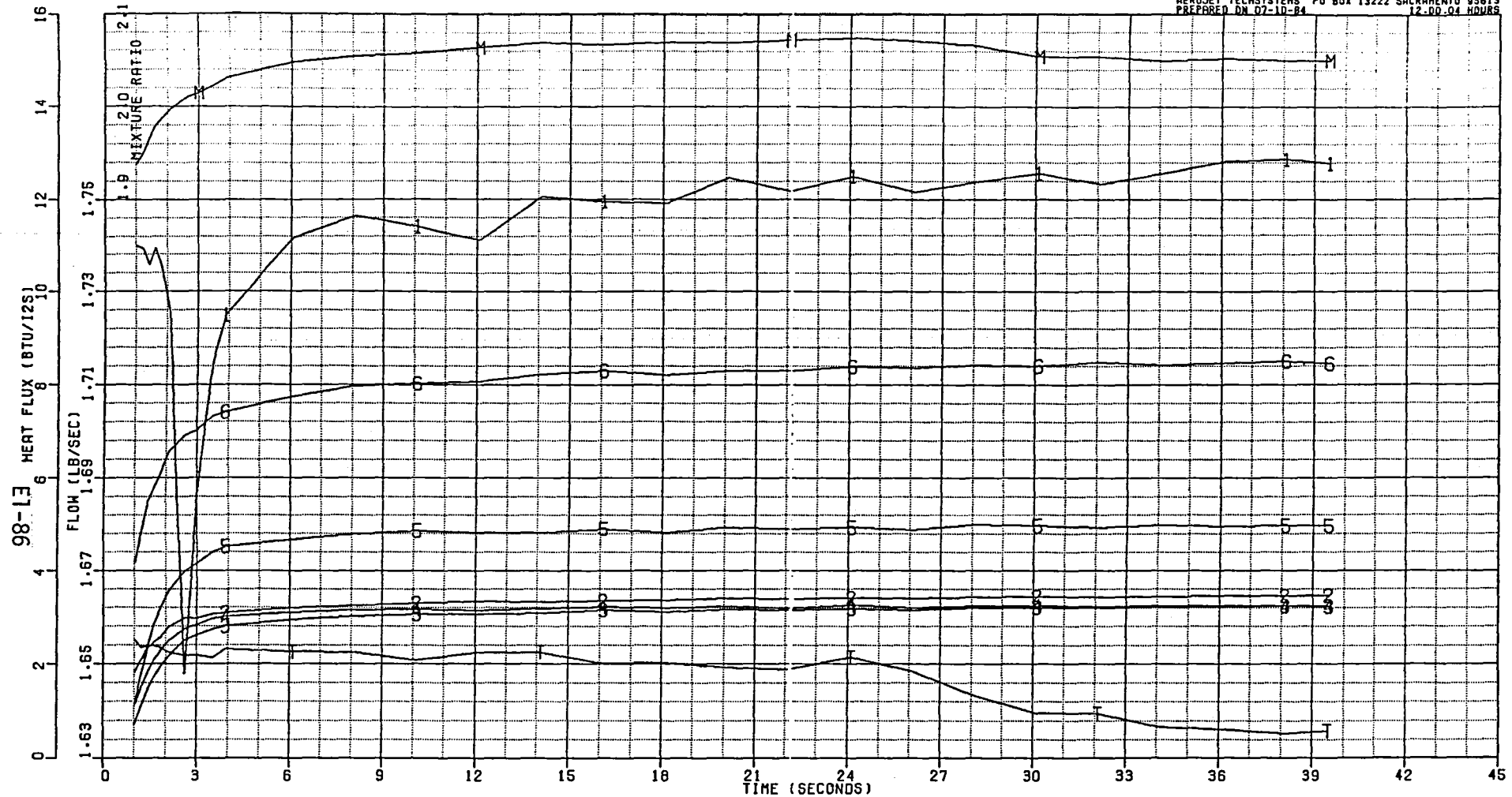
NOZZLE DATA

TEST DATE 05-03-84 1528 HOURS AVERAGED DATA



3 Q/A8B1-1 BTU/12S M HR
 4 Q/A8B2 BTU/12S
 5 Q/A8B1-2 BTU/12S
 6 Q/A8B4-1 BTU/12S
 7 Q/A8B4-2.3 BTU/12S
 8 Q/AN1-1 BTU/12S
 9 Q/AN1-2 BTU/12S
 T WTDOT LBS/SEC

HEAT FLUX (Q/A) VS TIME BARREL DATA
 TEST NO. RLBL-936-215
 TEST DATE 05-03-84 1528 HOURS AVERAGED DATA

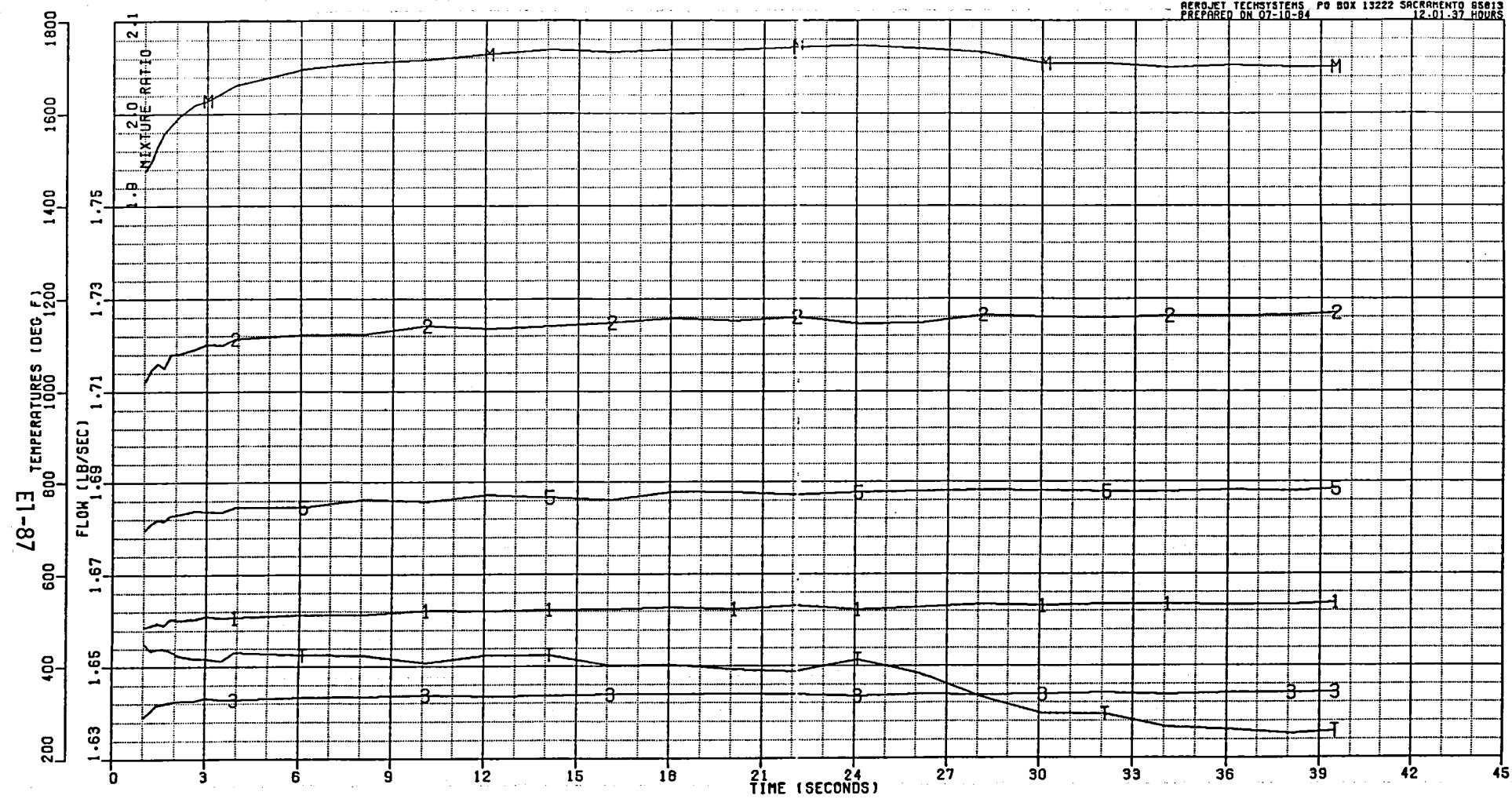


1 Q/ATRNC BTU/12S
 2 Q/A12B6-1 BTU/12S
 3 Q/A12B6-2.5 BTU/12S
 4 Q/A12B3.4 BTU/12S
 5 Q/A12B1-2.2 BTU/12S
 6 Q/A12B1-1 BTU/12S
 T WTOT LBS/SEC
 M MR

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-215

MISC. DATA

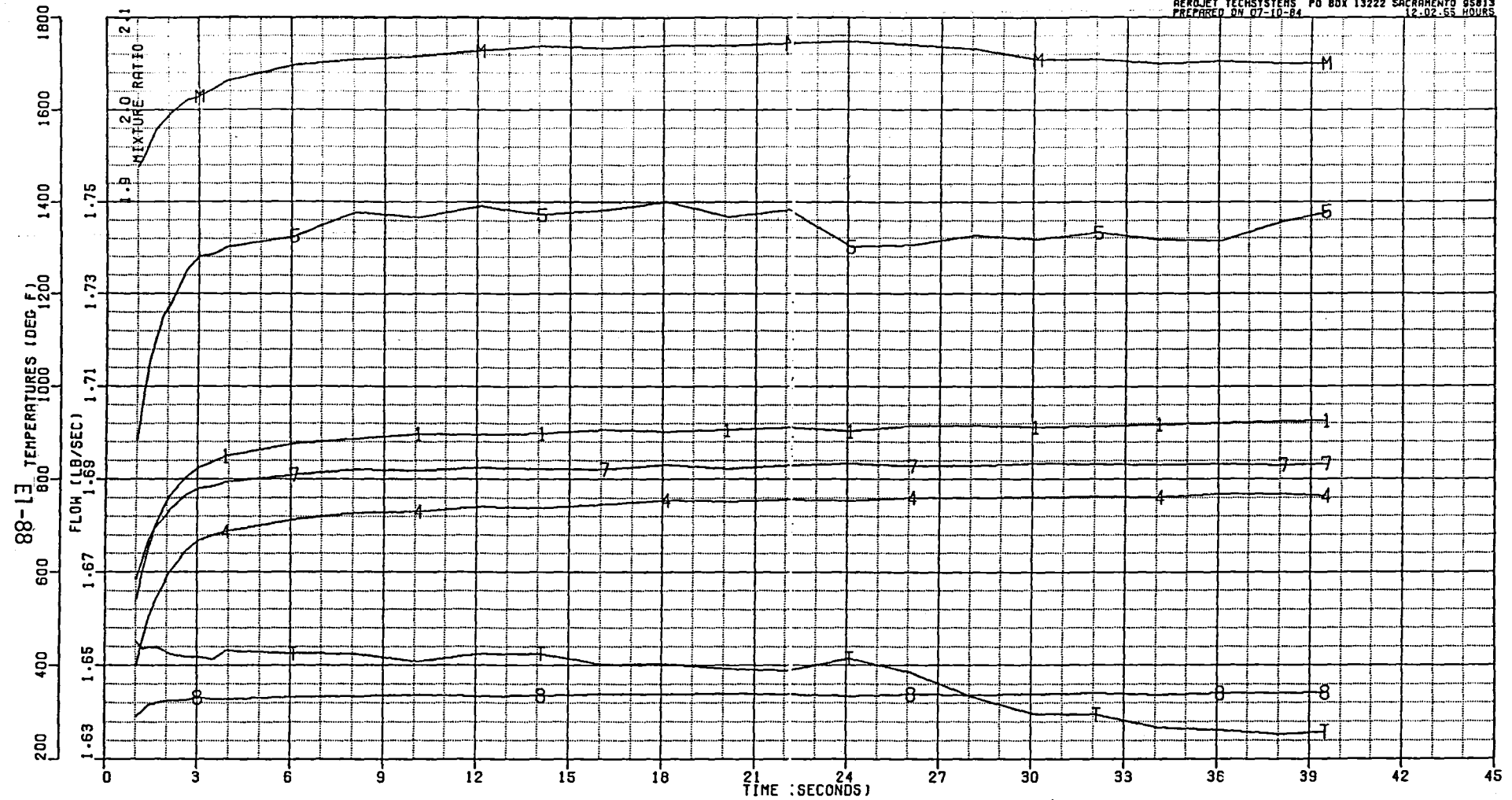
TEST DATE 05-03-84 1528 HOURS AVERAGED DATA



1 TC-1 DEG F
 2 TC-2 DEG F
 3 TC-3 DEG F
 5 TC-5 DEG F
 T WTOT LBS/SEC
 M MR

GAS SIDE WALL TEMPERATURE VS TIME NOZZLE TEST NO. RLBL-936-215

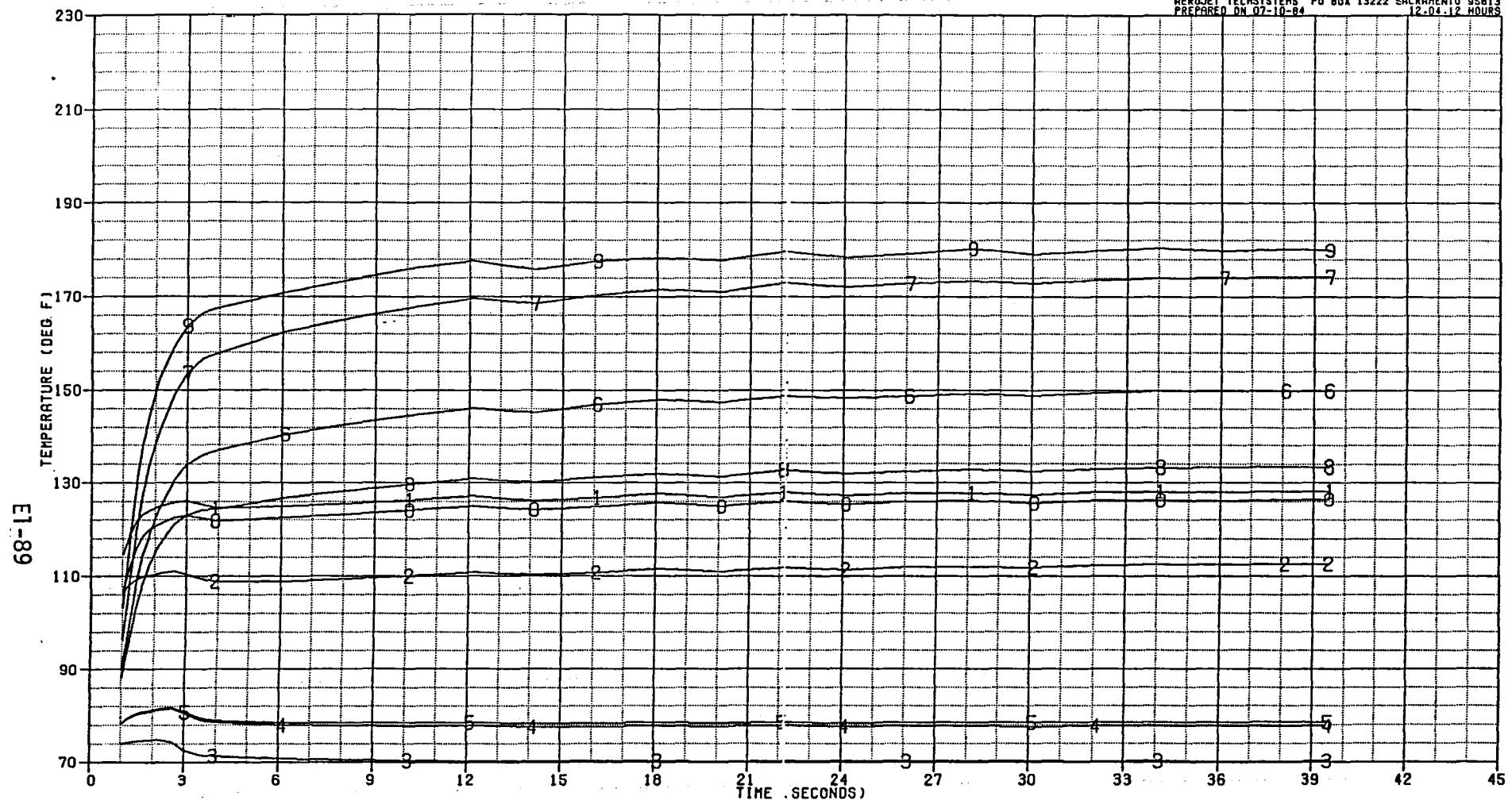
TEST DATE 05-03-84 1528 HOURS AVERAGED DATA



1 TC-7 DEG F
 4 TC-10 DEG F
 6 TC-12 DEG F
 7 TC-13 DEG F
 8 TC-3 DEG F
 T WTOT LBS/SEC
 H MR

GAS SIDE WALL TEMPERATURE VS TIME BARREL
 TEST NO. RLBL-936-215

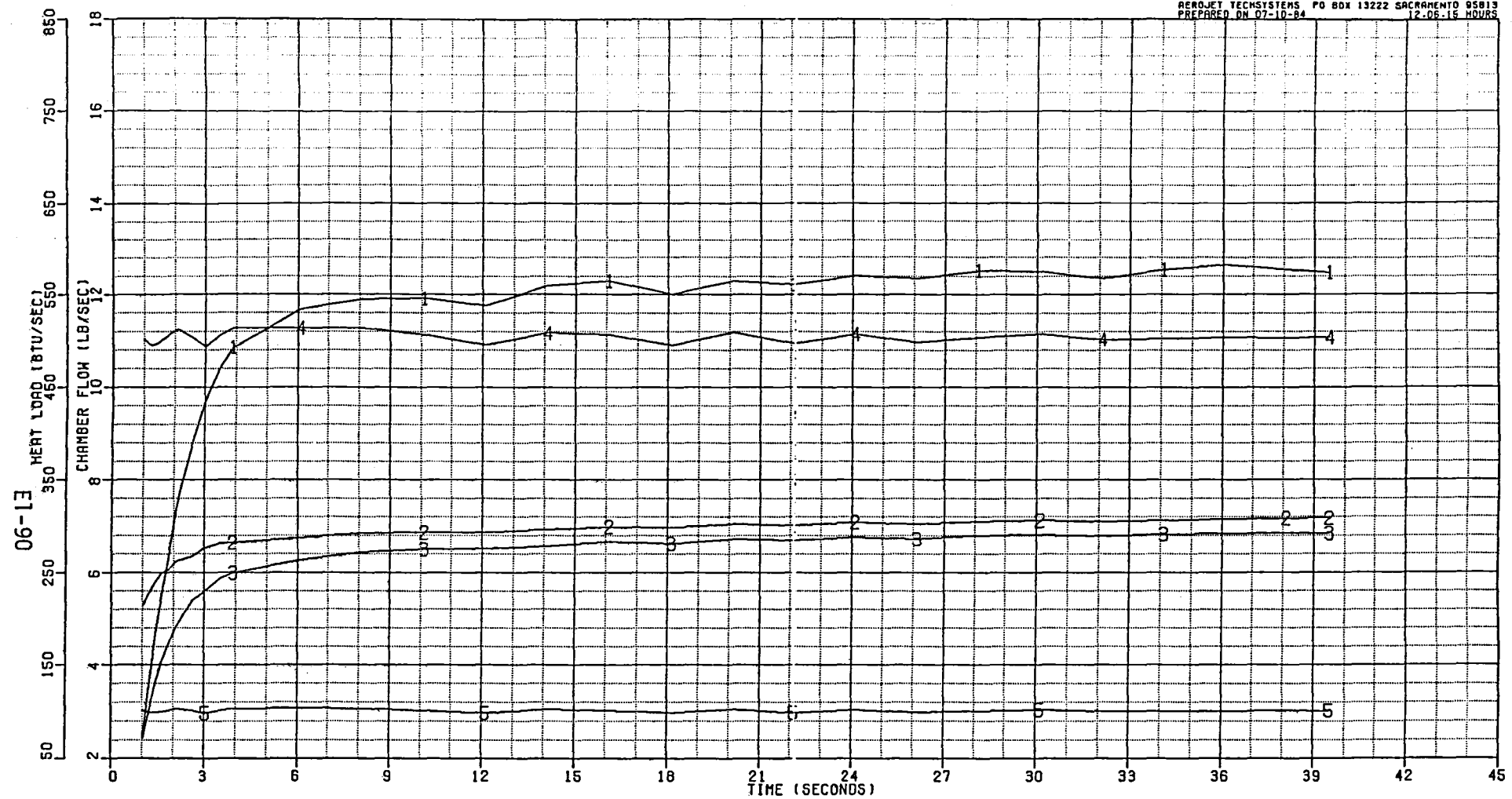
TEST DATE 05-03-84 1528 HOURS AVERAGED DATA



- | | | | |
|----------|-------|----------|-------|
| 0 TWC-6 | DEG F | 8 TWC-31 | DEG F |
| 1 TWC-7 | DEG F | 9 TWC-32 | DEG F |
| 2 TWC-10 | DEG F | | |
| 3 TWC-21 | DEG F | | |
| 4 TWC-22 | DEG F | | |
| 5 TWC-23 | DEG F | | |
| 6 TWC-26 | DEG F | | |
| 7 TWC-27 | DEG F | | |

COOLANT OUTLET TEMPERATURE VS TIME NO 1
 TEST NO. RLBL-936-215

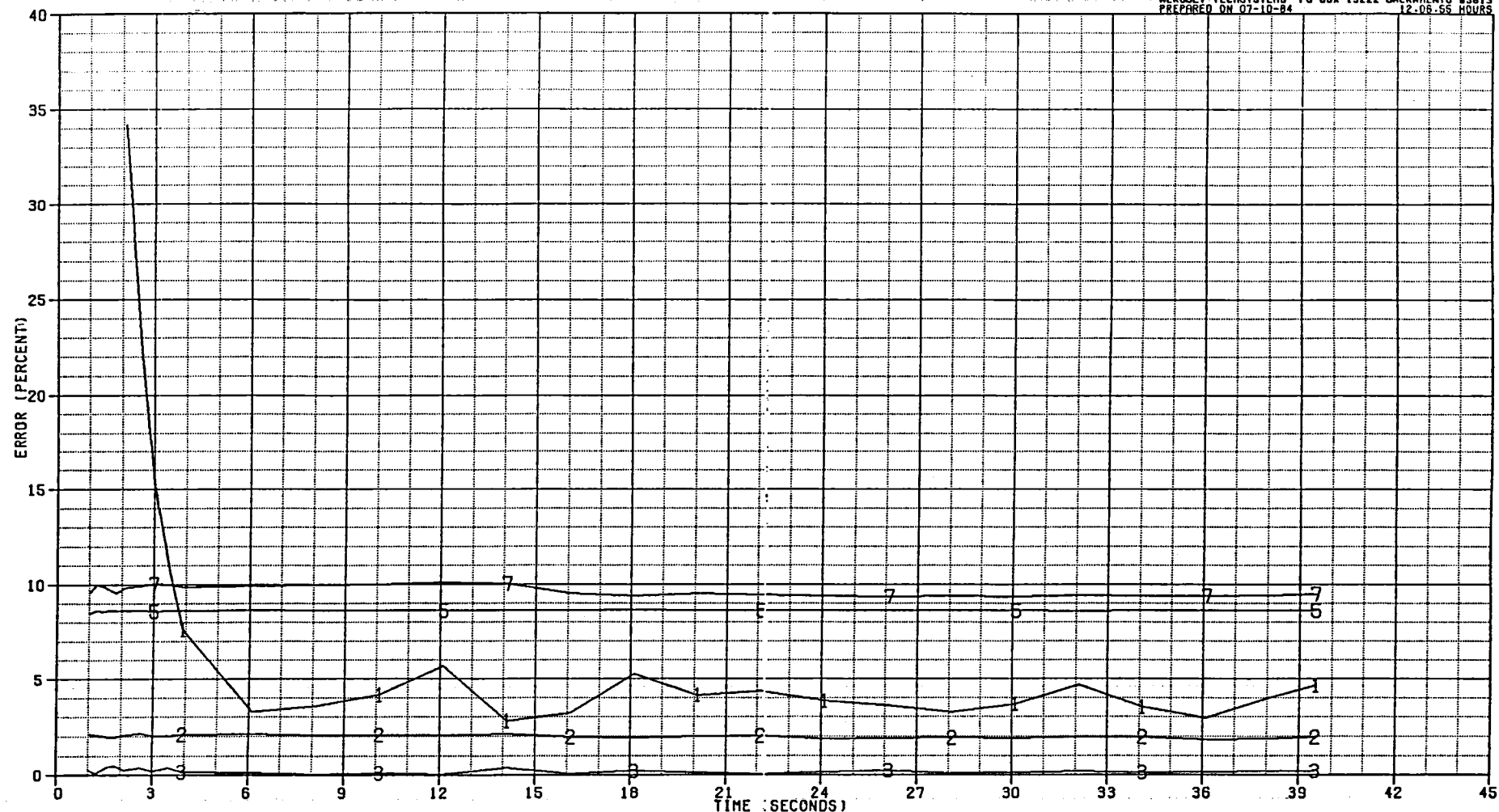
TEST DATE 05-03-84 1528 HOURS AVERAGED DATA



1 QM BTU/SEC
2 QNT BTU/SEC
3 QGBT BTU/SEC
4 WW1 LBS/SEC
5 WW2 LBS/SEC

CHAMBER FLOW AND HEAT LOAD VS TIME
TEST NO. RLBL-936-215

TEST DATE 05-03-84 1528 HOURS AVERAGED DATA



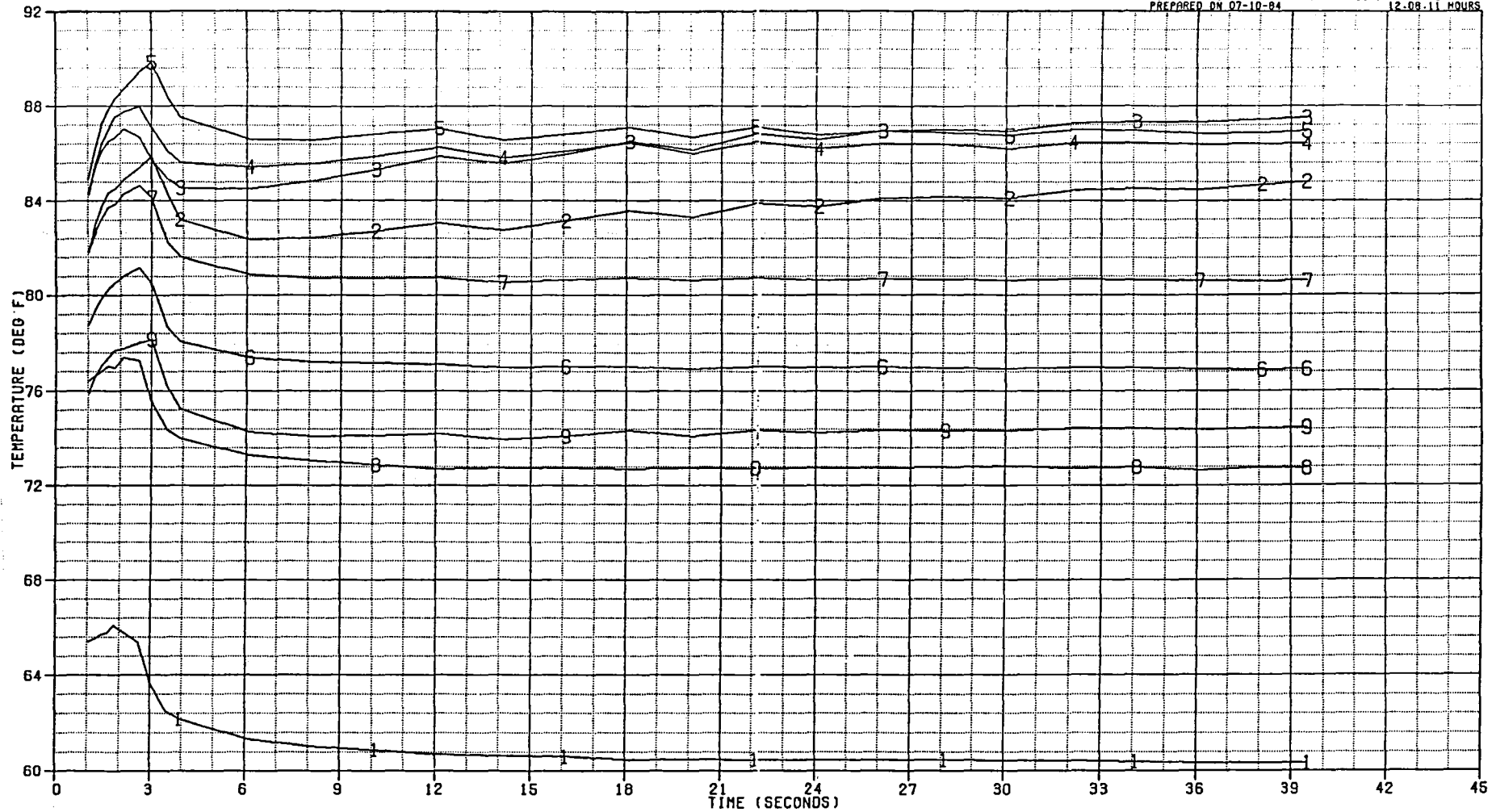
1 QERM PERCENT
 2 WERNT PERCENT
 3 WERBBT PERCENT
 4 WER12B1 PERCENT
 5 WER12B3 PERCENT
 6 WER12B5 PERCENT
 7 WERN10 PERCENT

CHAMBER FLOW + HEAT LOAD ERRORS VS TIME
 TEST NO. RLBL-936-215

TEST DATE 05-03-84 1528 HOURS AVERAGED DATA

E1-91

EL-92

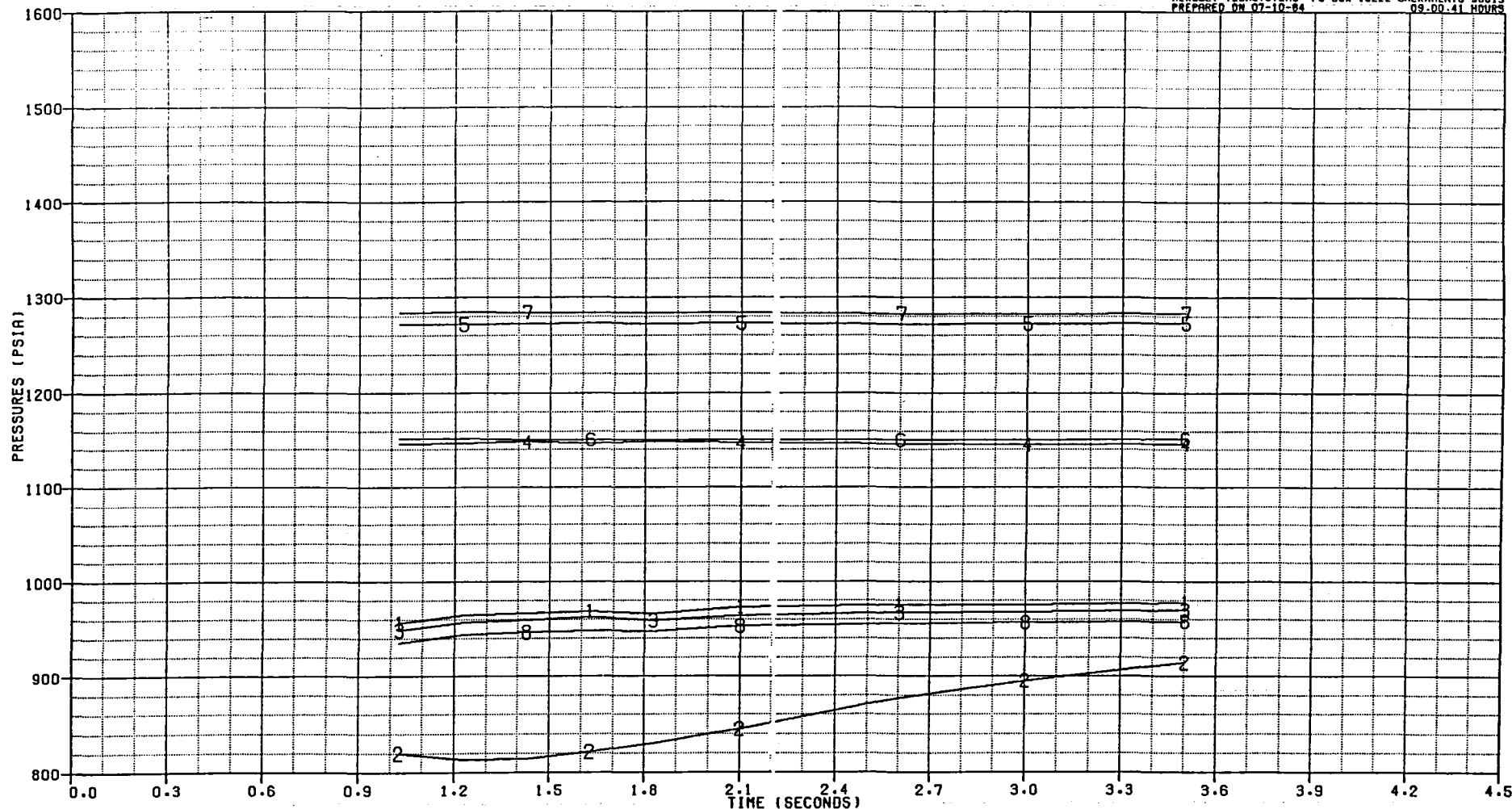


- | | | | |
|----------|-------|----------|-------|
| 1 TWC-1 | DEG F | 9 TWC-20 | DEG F |
| 2 TWC-13 | DEG F | | |
| 3 TWC-14 | DEG F | | |
| 4 TWC-15 | DEG F | | |
| 5 TWC-16 | DEG F | | |
| 6 TWC-17 | DEG F | | |
| 7 TWC-18 | DEG F | | |
| 8 TWC-19 | DEG F | | |

COOLANT OUTLET TEMPERATURE VS TIME NO 2
 TEST NO. RLBL-936-215

TEST DATE 05-03-84 1528 HOURS AVERAGED DATA

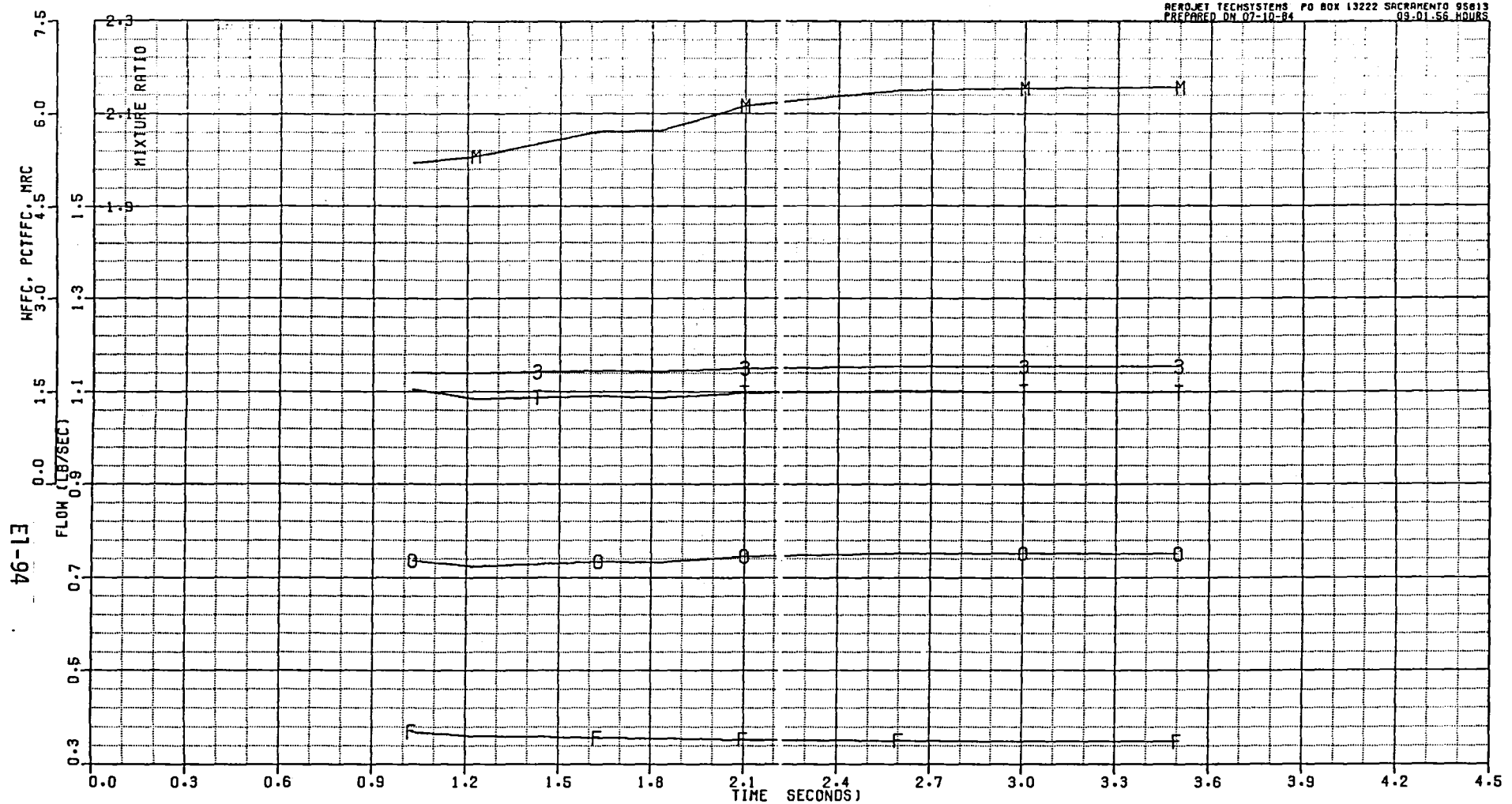
E1-93



INJECTOR PRESSURES VS TIME TEST NO. RLBL-936-221

TEST DATE 06-08-84 1103 HOURS AVERAGED DATA

- 1 PC-1 PSIA
- 2 POJI PSIA
- 3 PFJI PSIA
- 4 POJ PSIA
- 5 PFJ PSIA
- 6 POT PSIA
- 7 PFT PSIA
- 8 PFC-1 PSIA

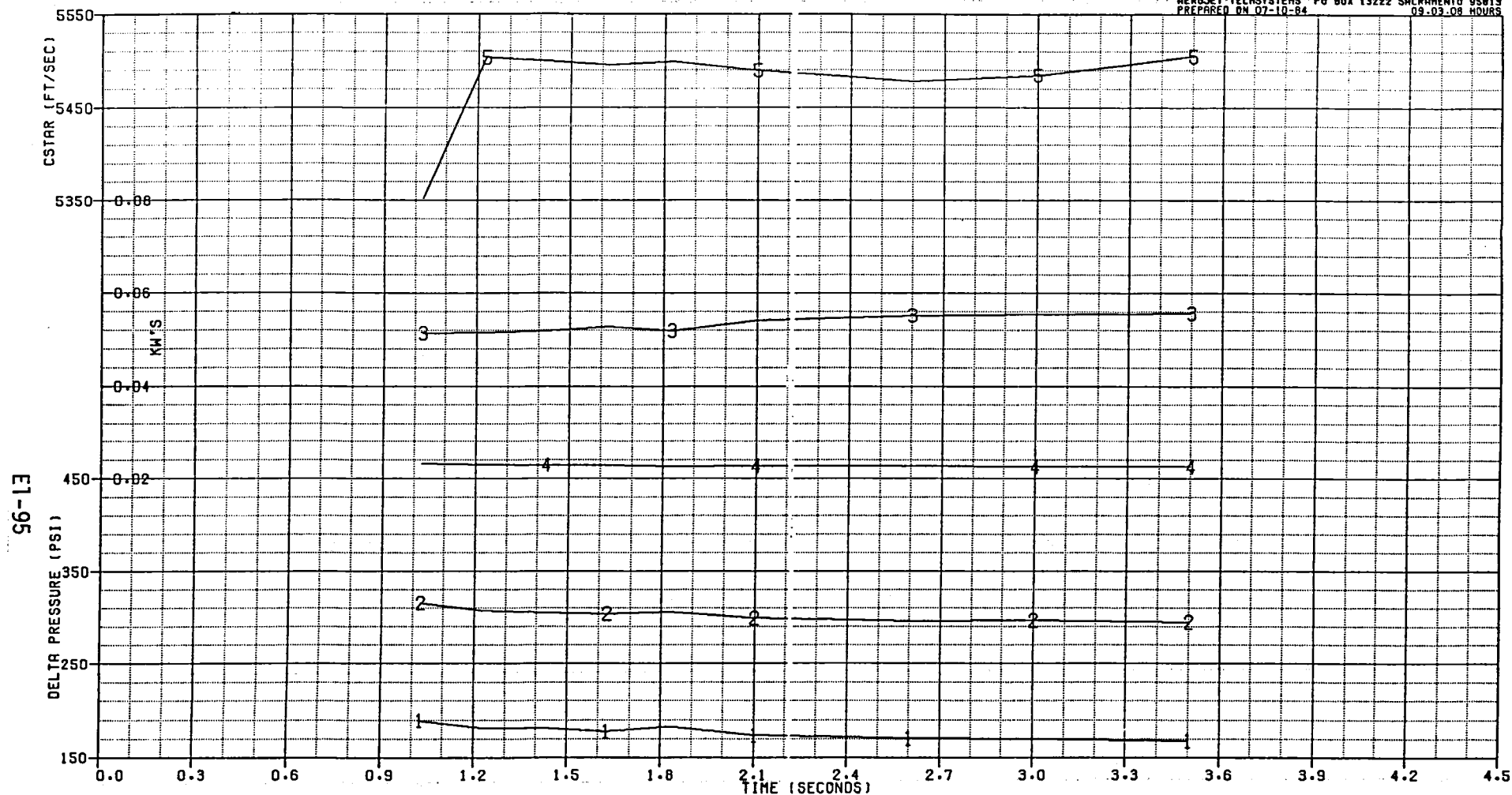


E1-94

F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR
 1 WFFC LBS/SEC
 2 PCTFFC PERCENT
 3 MRC

INJECTOR FLOW VS TIME
 TEST NO. RLBL-936-221

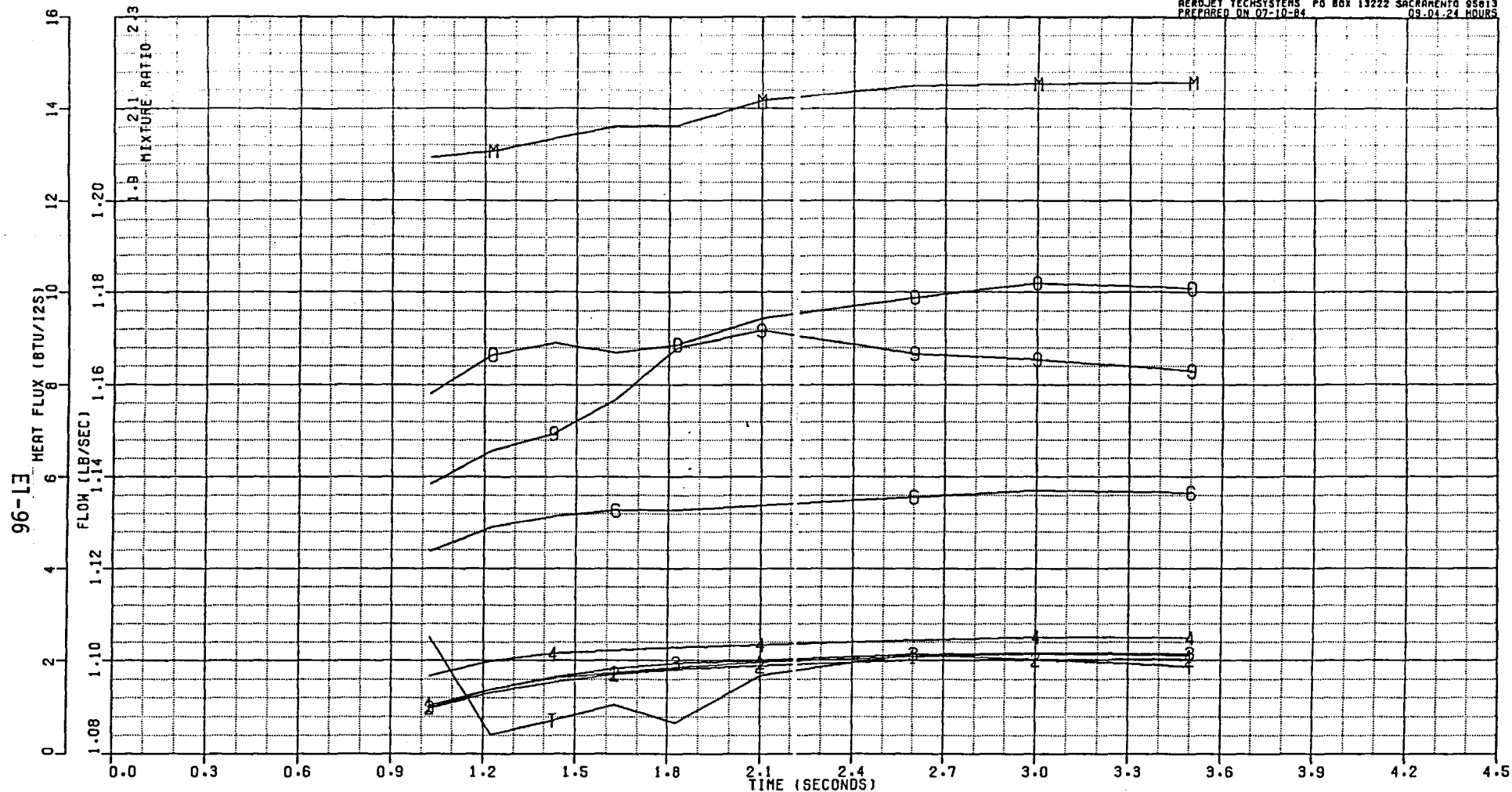
- TEST DATE 06-08-84 1103 HOURS AVERAGED DATA



- 1 DPOJ PSI
 2 DPFJ PSI
 3 KWOJ PSI
 4 KWFJ PSI
 5 CSTRMC FT/SEC

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLBL-936-221

TEST DATE 06-08-84 1103 HOURS AVERAGED DATA

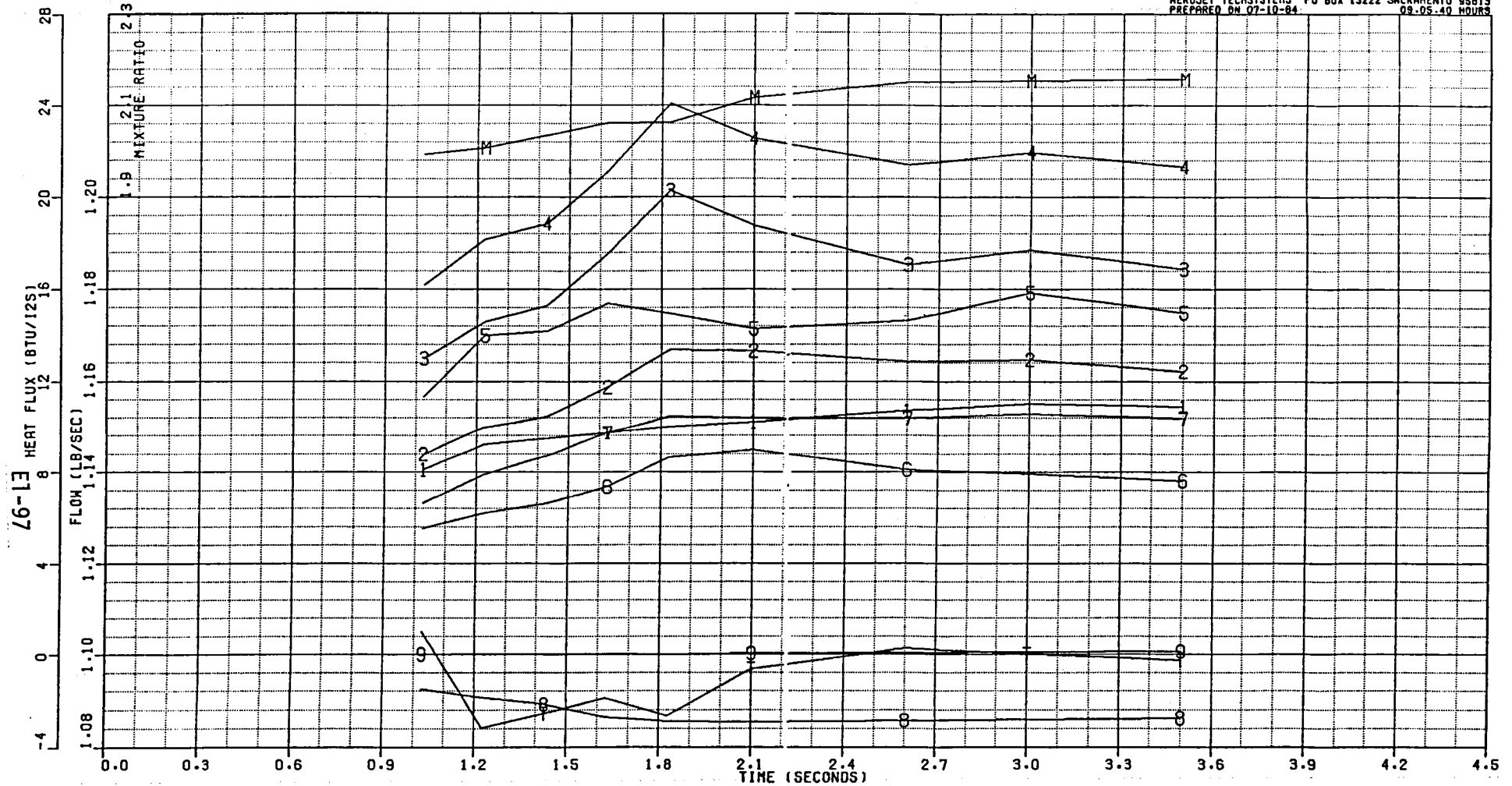


1 Q/AN1-2 BTU/12S M MR
 2 Q/AN1-3 BTU/12S
 3 Q/AN2-1 BTU/12S
 4 Q/AN2-2.-3 BTU/12S
 6 Q/AN3 BTU/12S
 9 Q/AN4 BTU/12S
 0 Q/AN5 BTU/12S
 T WTOT LBS/SEC

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-221

NOZZLE DATA

TEST DATE 06-08-84 1103 HOURS AVERAGED DATA



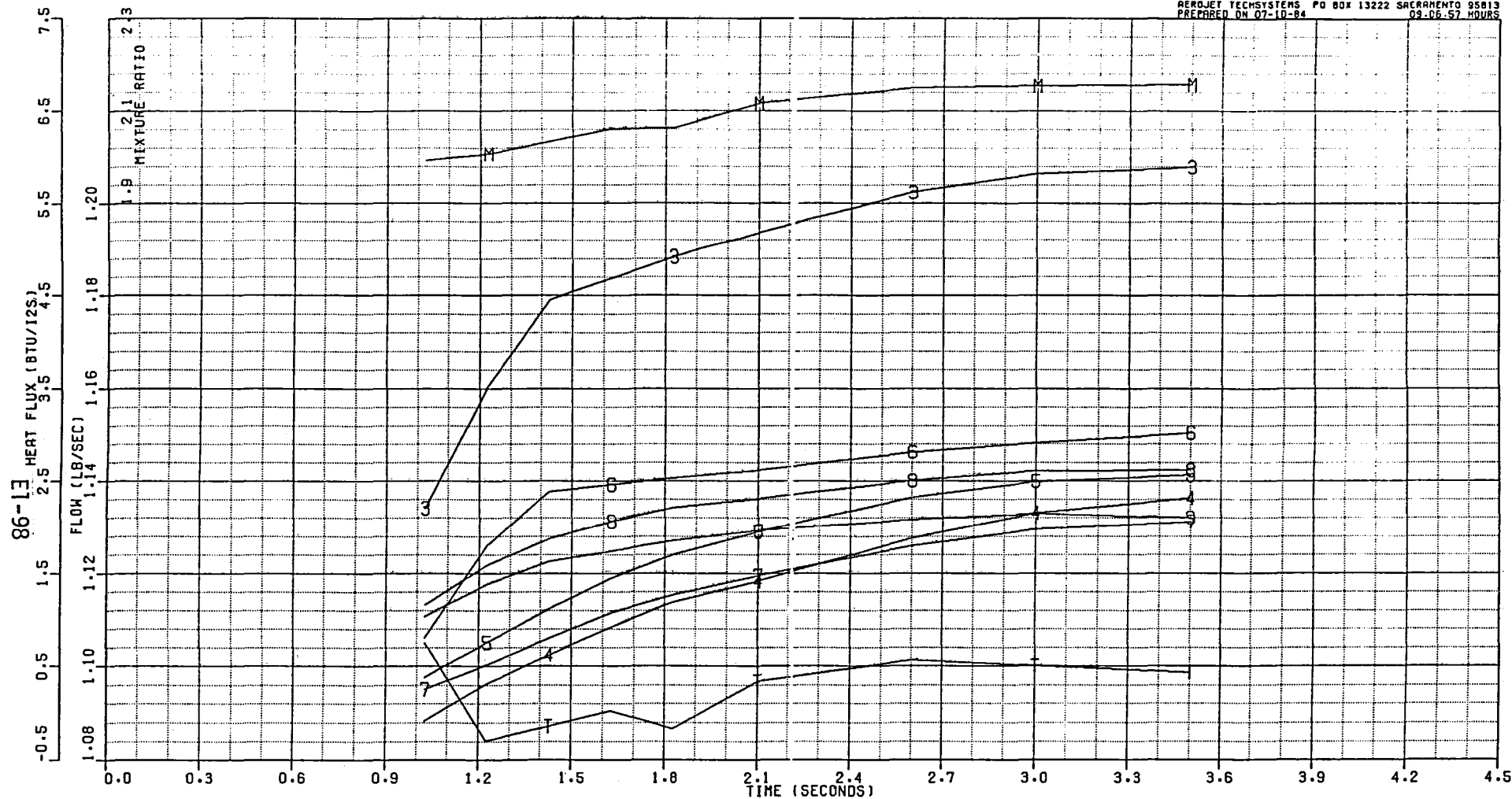
1 Q/AN6	BTU/12S	9 Q/AN12-3	BTU/12S
2 Q/AN7	BTU/12S	T WTOT	LBS/SEC
3 Q/AN8	BTU/12S	M MR	
4 Q/AN9	BTU/12S		
5 Q/AN10	BTU/12S		
6 Q/AN11	BTU/12S		
7 Q/AN12-1	BTU/12S		
8 Q/AN12-2	BTU/12S		

HEAT FLUX (Q/A) VS TIME
TEST NO. RLBL-936-221

NOZZLE DATA

TEST DATE 06-08-84 1103 HOURS

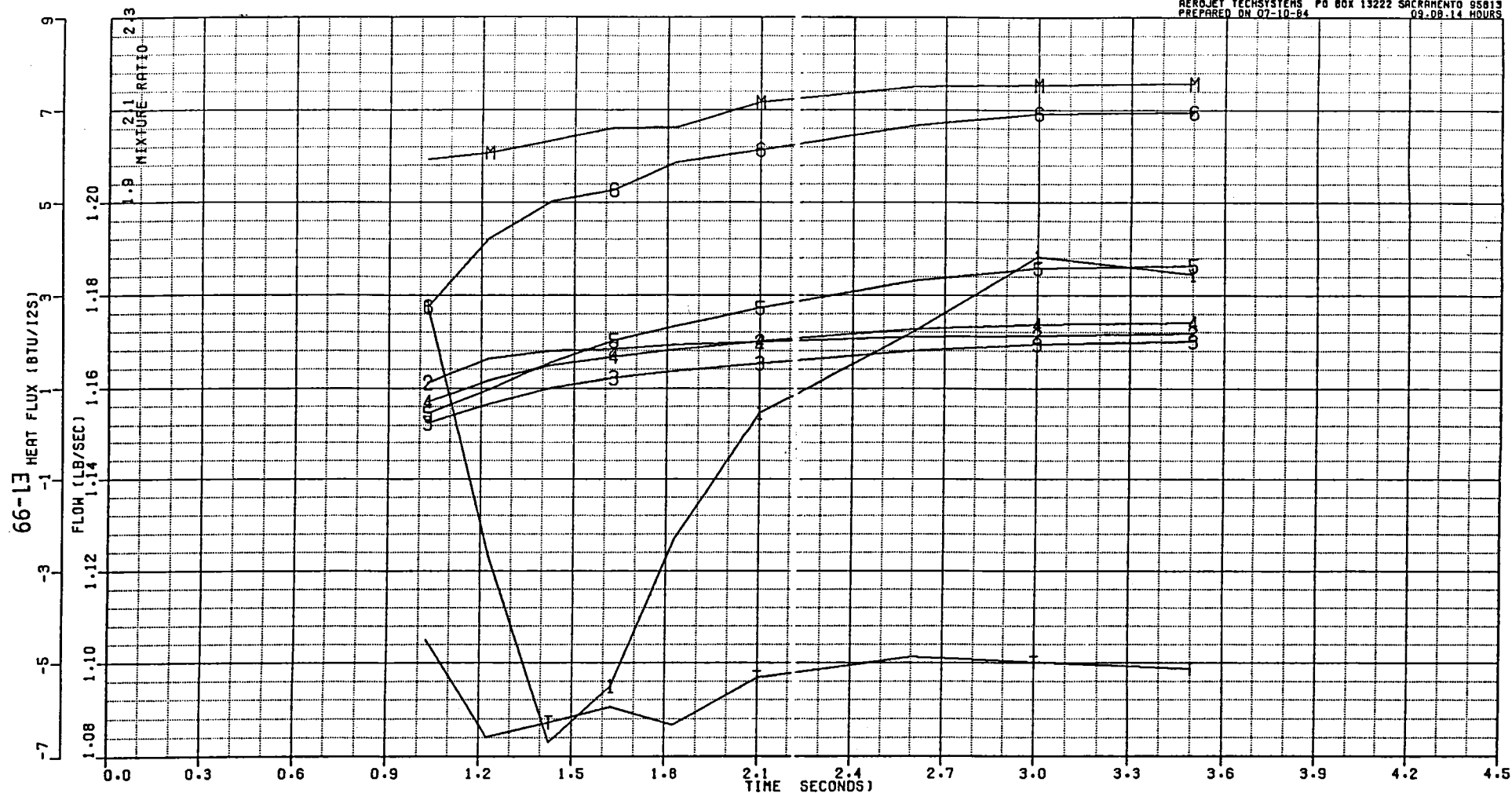
AVERAGED DATA



3 Q/A8B1-1 BTU/I2S M MR
 4 Q/A8B2 BTU/I2S
 5 Q/A8B1-2 BTU/I2S
 6 Q/A8B4-1 BTU/I2S
 7 Q/A8B4-2.3 BTU/I2S
 8 Q/AN1-1 BTU/I2S
 9 Q/AN1-2 BTU/I2S
 T WTOT LBS/SEC

HEAT FLUX (Q/A) VS TIME BARREL DATA
 TEST NO. RLBL-936-221

TEST DATE 06-08-84 1103 HOURS AVERAGED DATA



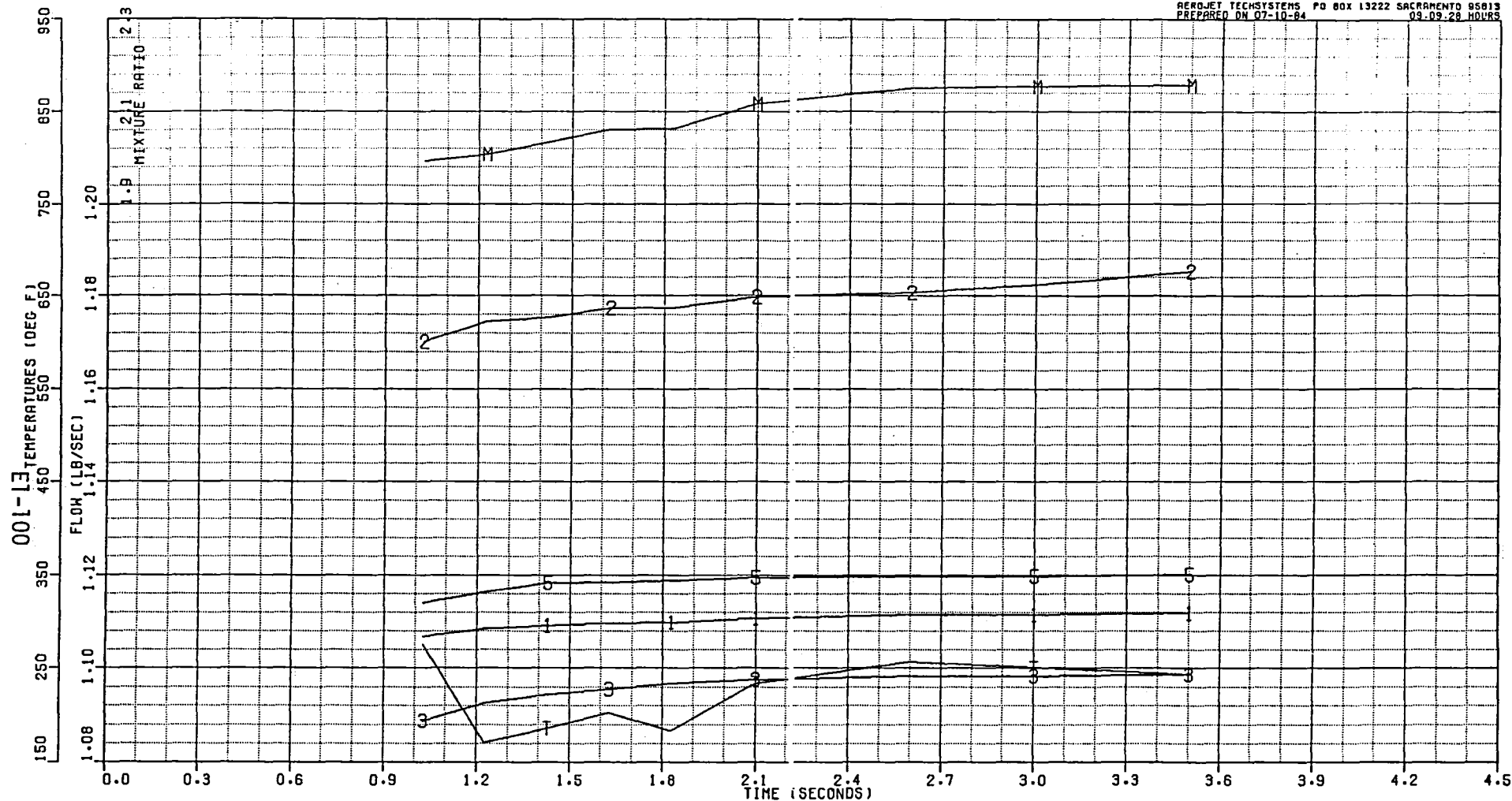
1 Q/ATM (BTU/12S)
 2 Q/A12B6-1 (BTU/12S)
 3 Q/A12B6-2.5 (BTU/12S)
 4 Q/A12B3.4 (BTU/12S)
 5 Q/A12B1-2.2 (BTU/12S)
 6 Q/A12B1-1 (BTU/12S)
 T WTOT (LBS/SEC)
 M MR

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-221

MISC. DATA

TEST DATE 06-08-84 1103 HOURS

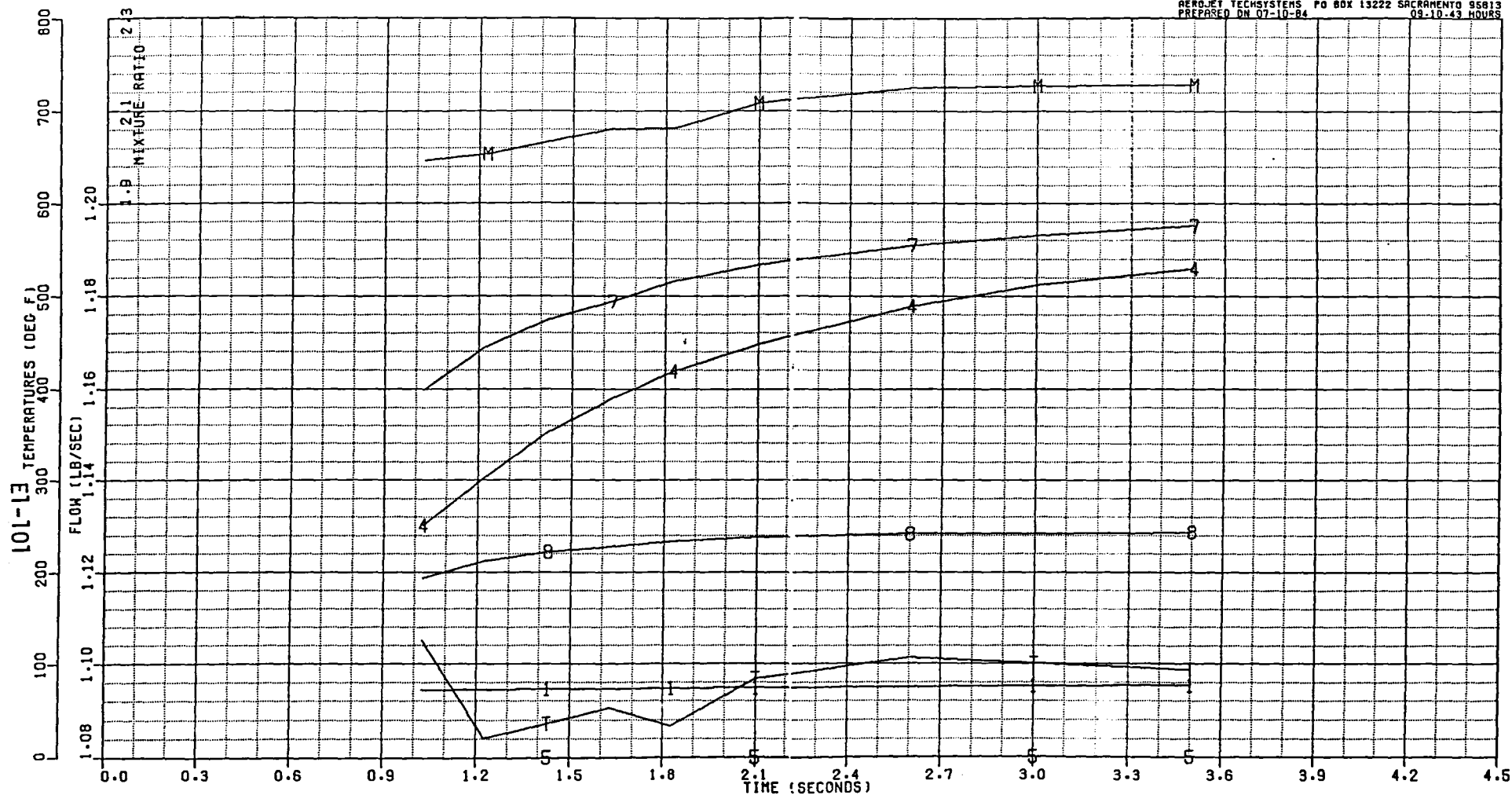
AVERAGED DATA



1 TC-1 DEG F
 2 TC-2 DEG F
 3 TC-3 DEG F
 5 TC-5 DEG F
 T WTOT LB/SEC
 M MR

GAS SIDE WALL TEMPERATURE VS TIME NOZZLE
 TEST NO. RLBL-936-221

TEST DATE 06-08-84 1103 HOURS AVERAGED DATA

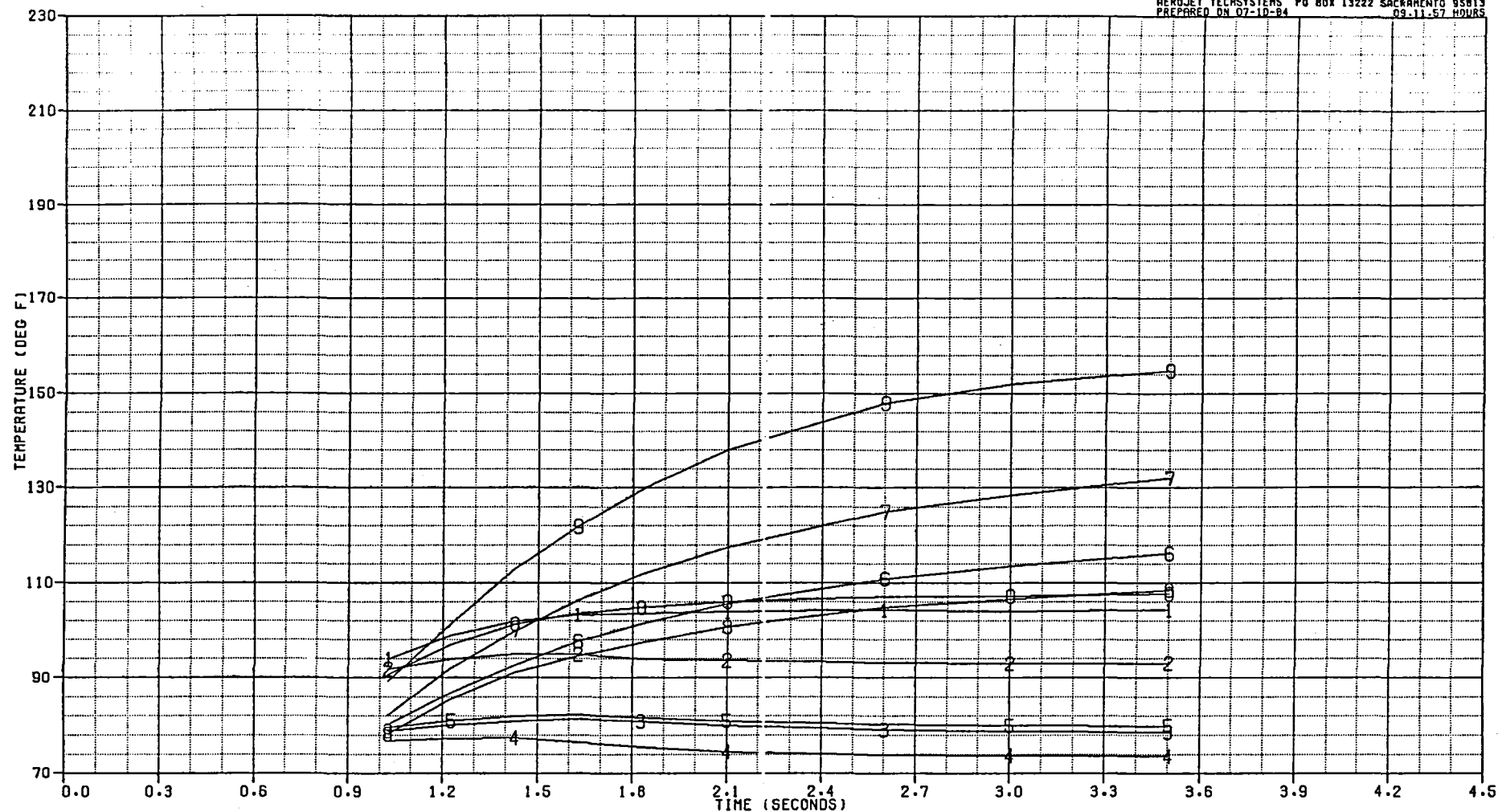


GAS SIDE WALL TEMPERATURE VS TIME BARREL
 TEST NO. RLBL-936-221

TEST DATE 06-08-84 1103 HOURS AVERAGED DATA

1 TC-7 DEG F
 4 TC-10 DEG F
 5 TC-12 DEG F
 7 TC-13 DEG F
 8 TC-3 DEG F
 T WTOT LBS/SEC
 H HR

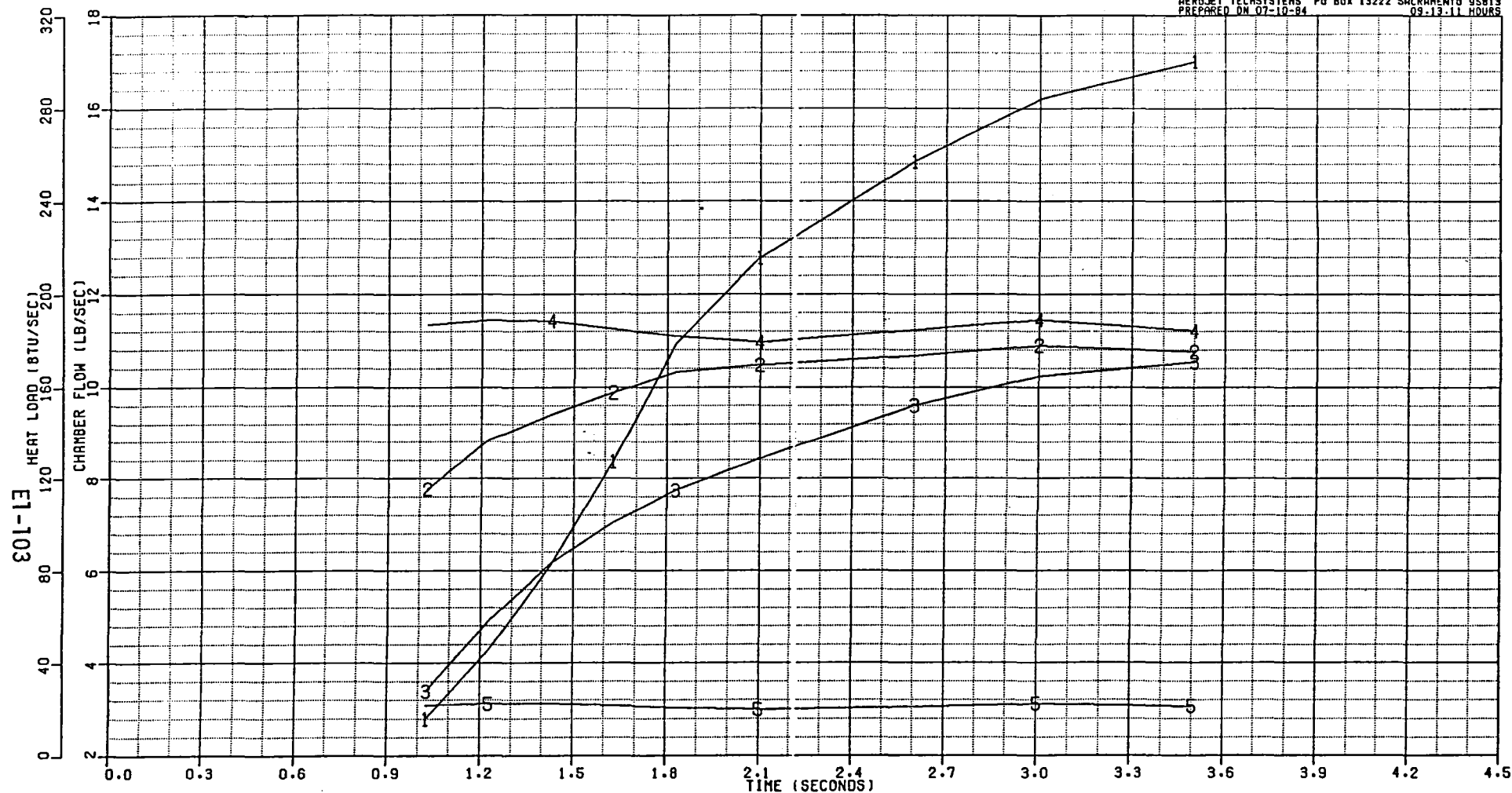
E1-102



COOLANT OUTLET TEMPERATURE VS TIME NO 1
 TEST NO. RLBL-936-221

TEST DATE 06-08-84 1103 HOURS AVERAGED DATA

0 TWC-6	DEG F	8 TWC-31	DEG F
1 TWC-7	DEG F	9 TWC-32	DEG F
2 TWC-10	DEG F		
3 TWC-21	DEG F		
4 TWC-22	DEG F		
5 TWC-23	DEG F		
6 TWC-26	DEG F		
7 TWC-27	DEG F		

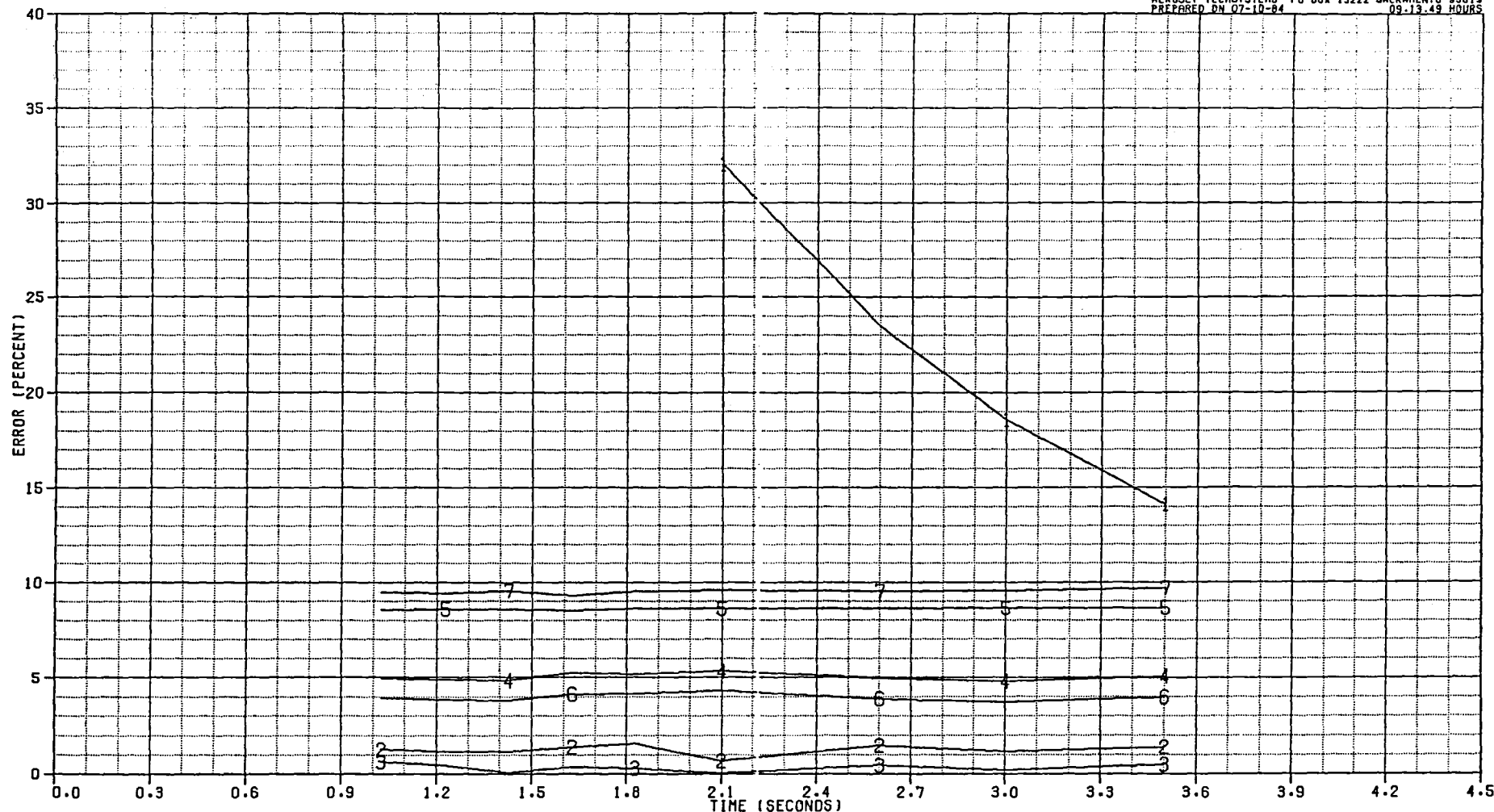


1 QH BTU/SEC
 2 QNT BTU/SEC
 3 Q8BT BTU/SEC
 4 NW1 LBS/SEC
 5 NW2 LBS/SEC

CHAMBER FLOW AND HEAT LOAD VS TIME
 TEST NO. RLBL-936-221

TEST DATE 06-08-84 1103 HOURS AVERAGED DATA

E1-104

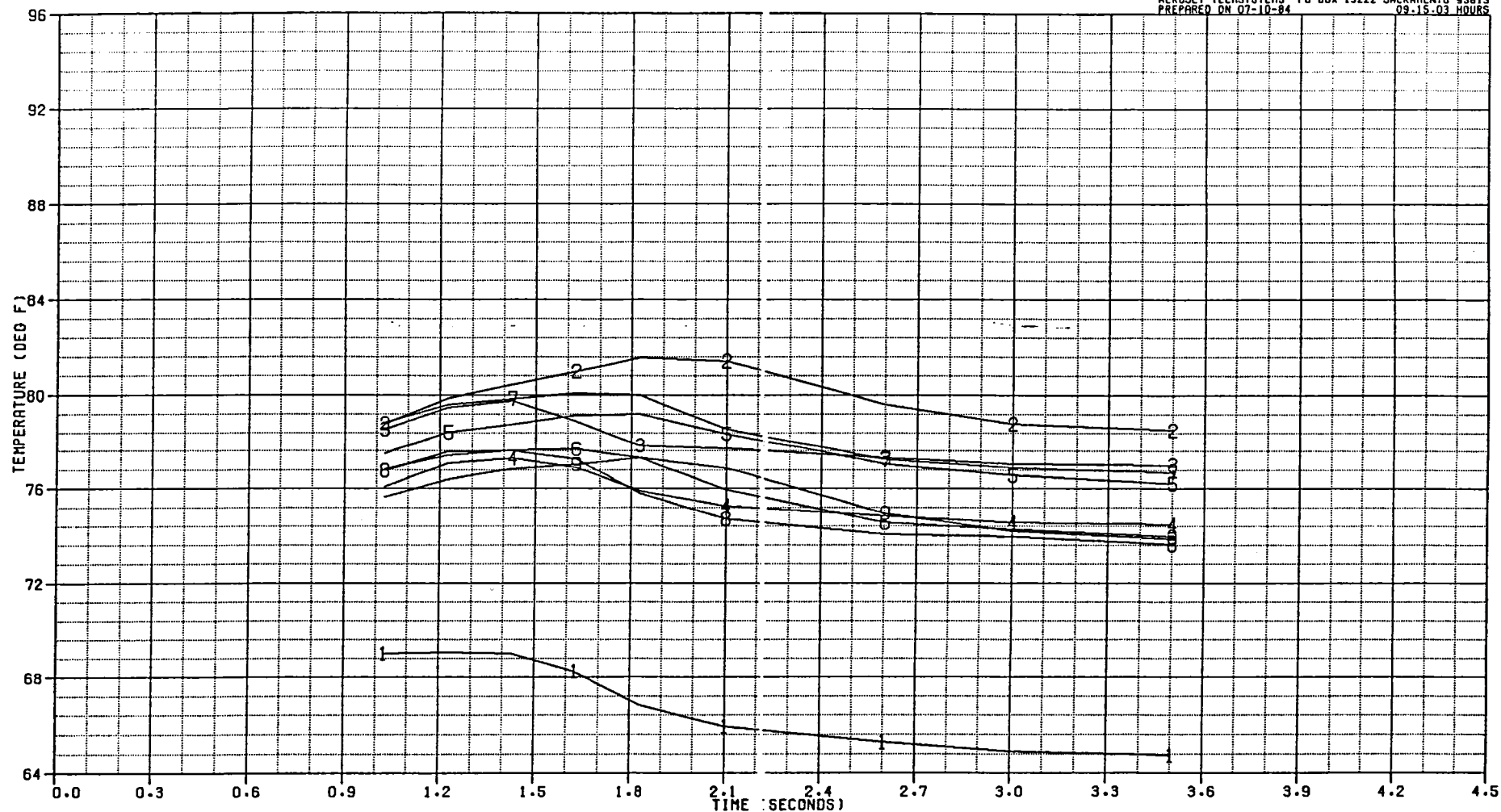


1 QERM	PERCENT
2 WERN1	PERCENT
3 WERN2	PERCENT
4 WERN3	PERCENT
5 WERN4	PERCENT
6 WERN5	PERCENT
7 WERN6	PERCENT

CHAMBER FLOW + HEAT LOAD ERRORS VS TIME
 TEST NO. RLBL-936-221

- TEST DATE 06-08-84 1103 HOURS AVERAGED DATA

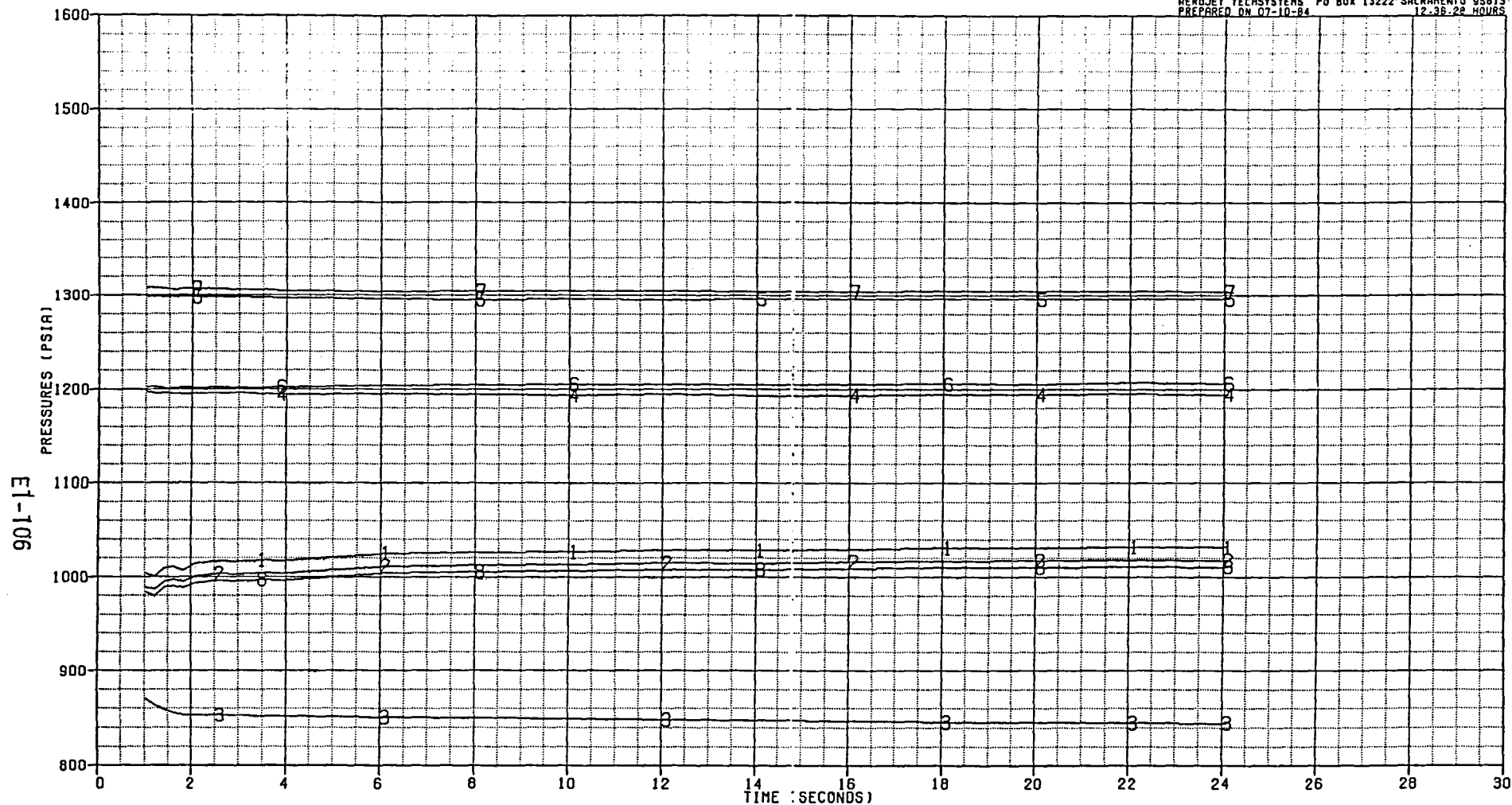
E1-105



- | | | | |
|----------|-------|----------|-------|
| 1 TWC-1 | DEG F | 9 TWC-20 | DEG F |
| 2 TWC-13 | DEG F | | |
| 3 TWC-14 | DEG F | | |
| 4 TWC-15 | DEG F | | |
| 5 TWC-16 | DEG F | | |
| 6 TWC-17 | DEG F | | |
| 7 TWC-18 | DEG F | | |
| 8 TWC-19 | DEG F | | |

COOLANT OUTLET TEMPERATURE VS TIME NO 2
 TEST NO. RLBL-936-221

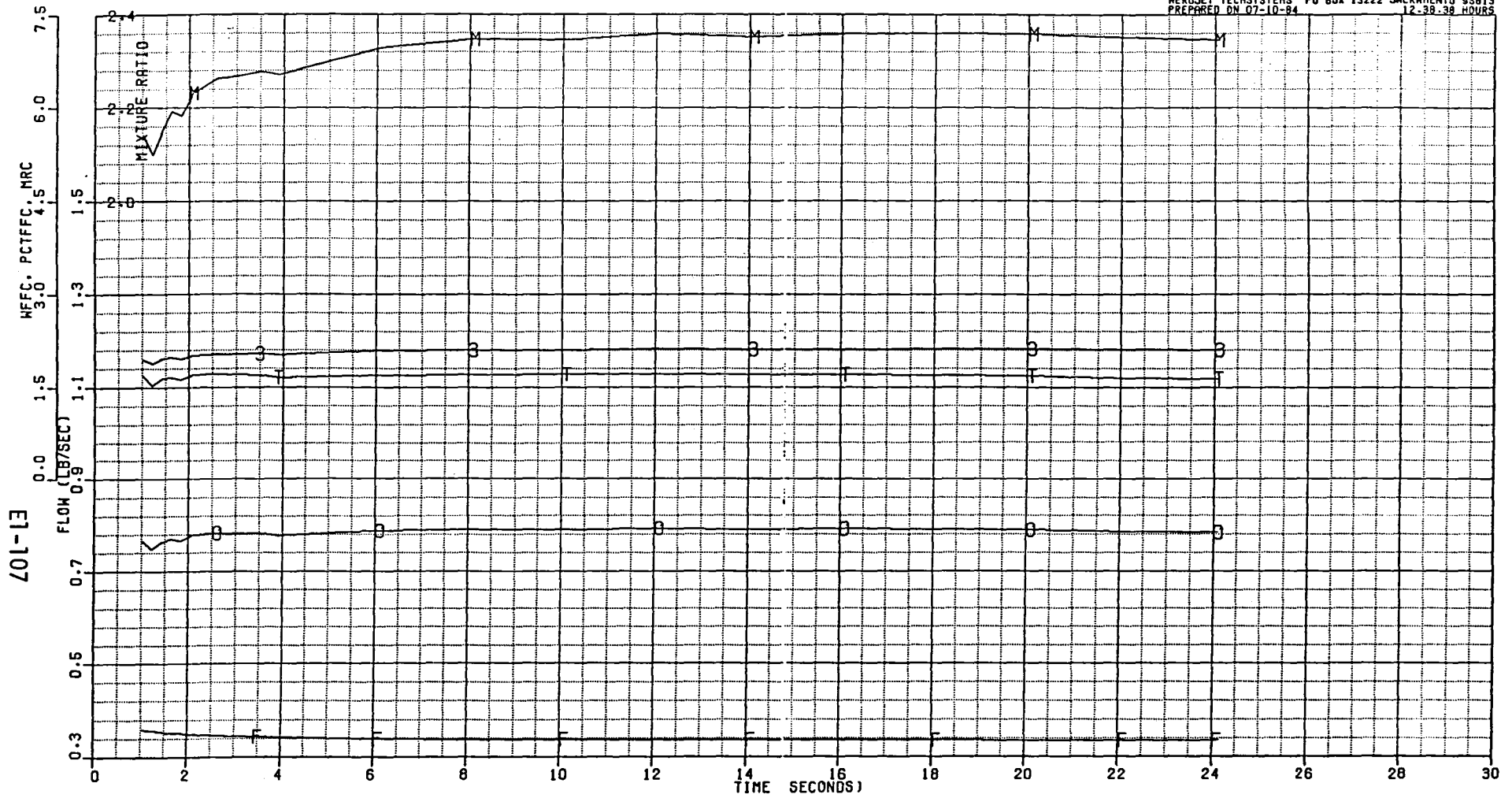
TEST DATE 06-08-84 1103 HOURS AVERAGED DATA



1 PC-1 PSIA
 2 POJI PSIA
 3 PFJI PSIA
 4 POJ PSIA
 5 PFJ PSIA
 6 POT PSIA
 7 PFT PSIA
 8 PFC-1 PSIA

INJECTOR PRESSURES VS TIME
 TEST NO. RLBL-936-222

TEST DATE 06-08-84 1111 HOURS AVERAGED DATA

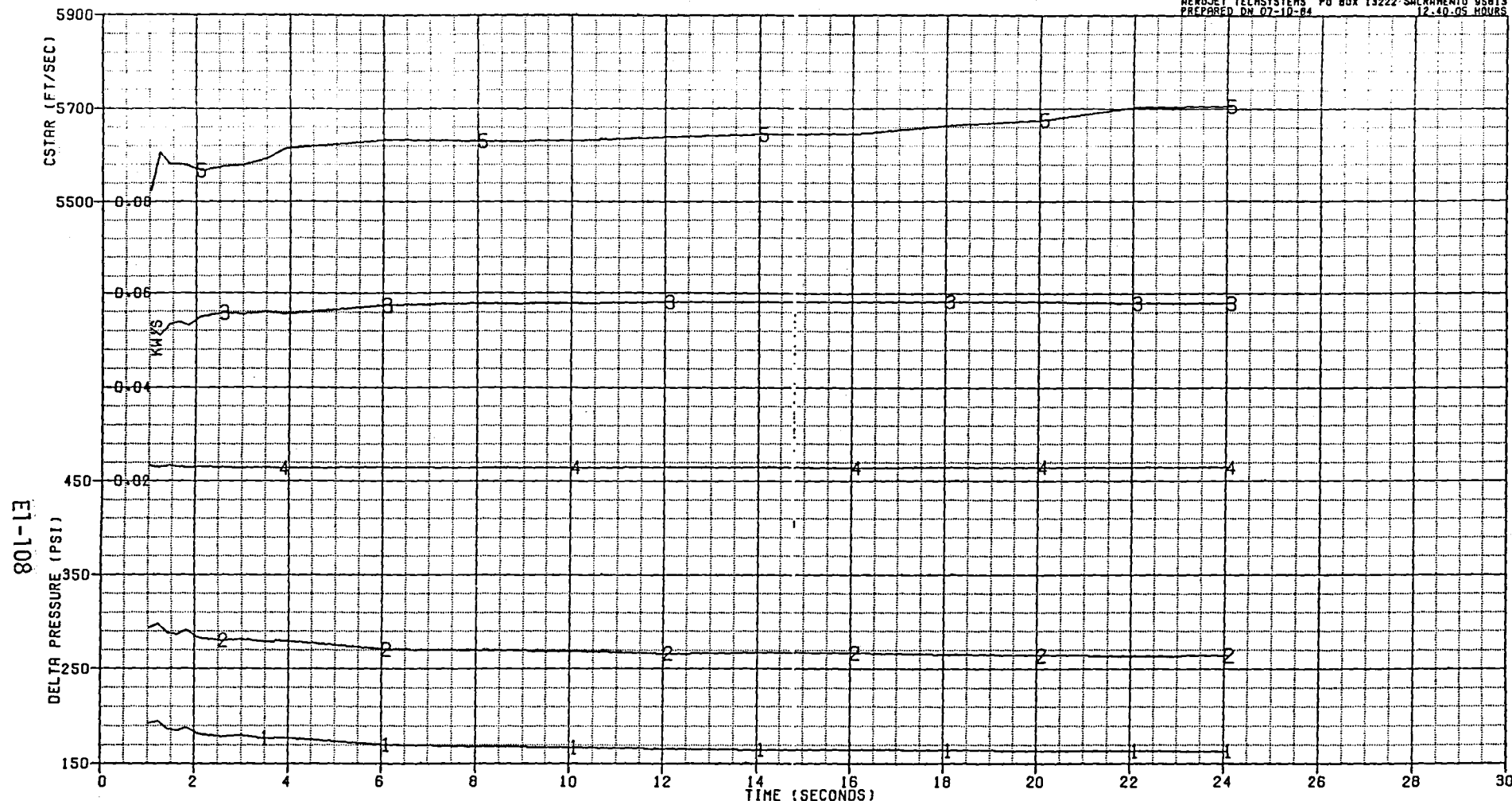


E1-107

F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR
 1 WFFC LBS/SEC
 2 PCTFFC PERCENT
 3 MRC

INJECTOR FLOW VS TIME
 TEST NO. RLBL-936-222

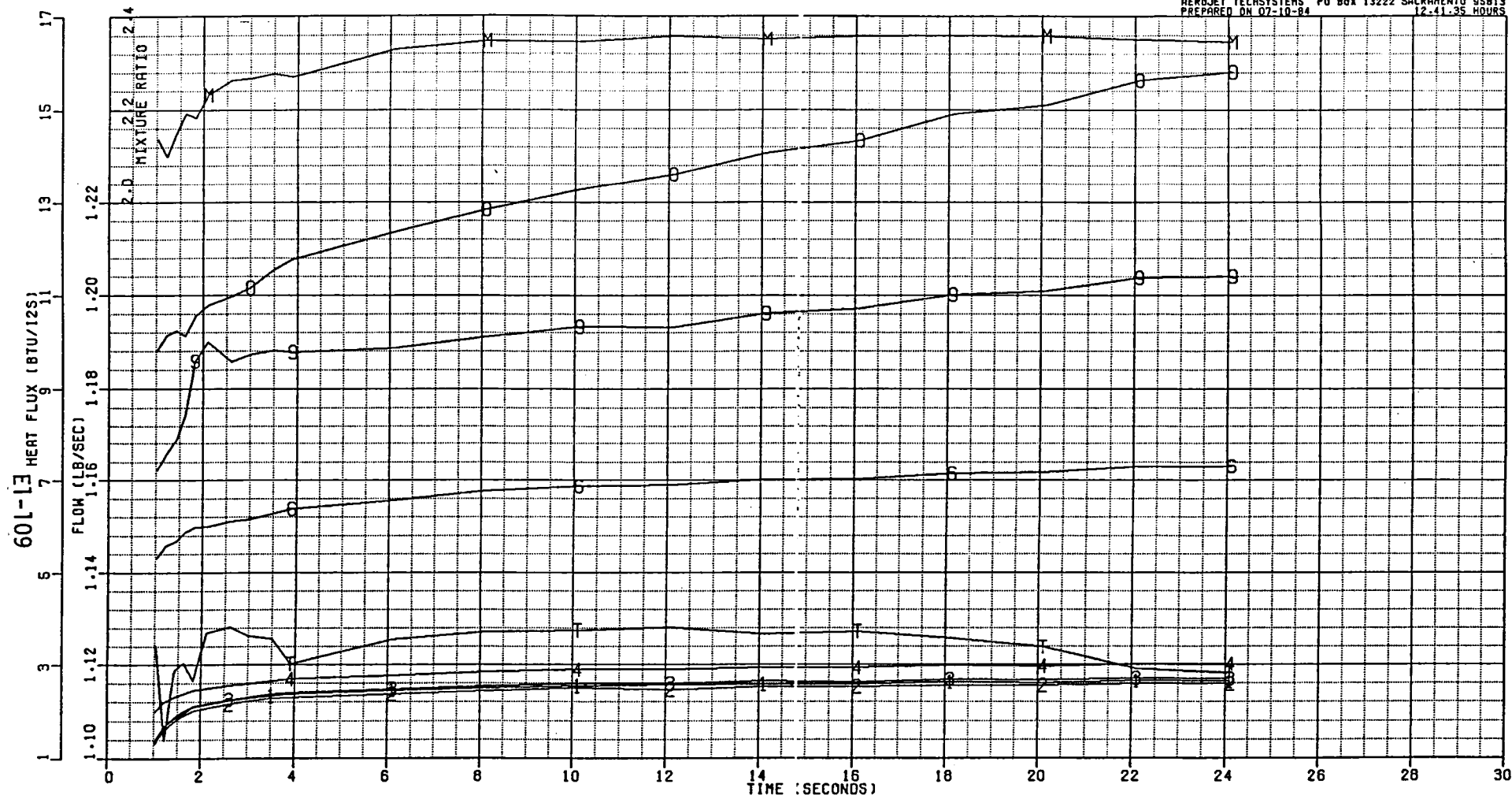
TEST DATE 06-08-84 1111 HOURS AVERAGED DATA



1 DPOJ PSI
 2 DPFJ PSI
 3 KWOJ
 4 KWFJ
 5 CSTRMC FT/SEC

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLBL-936-222

TEST DATE 06-08-84 1111 HOURS AVERAGED DATA

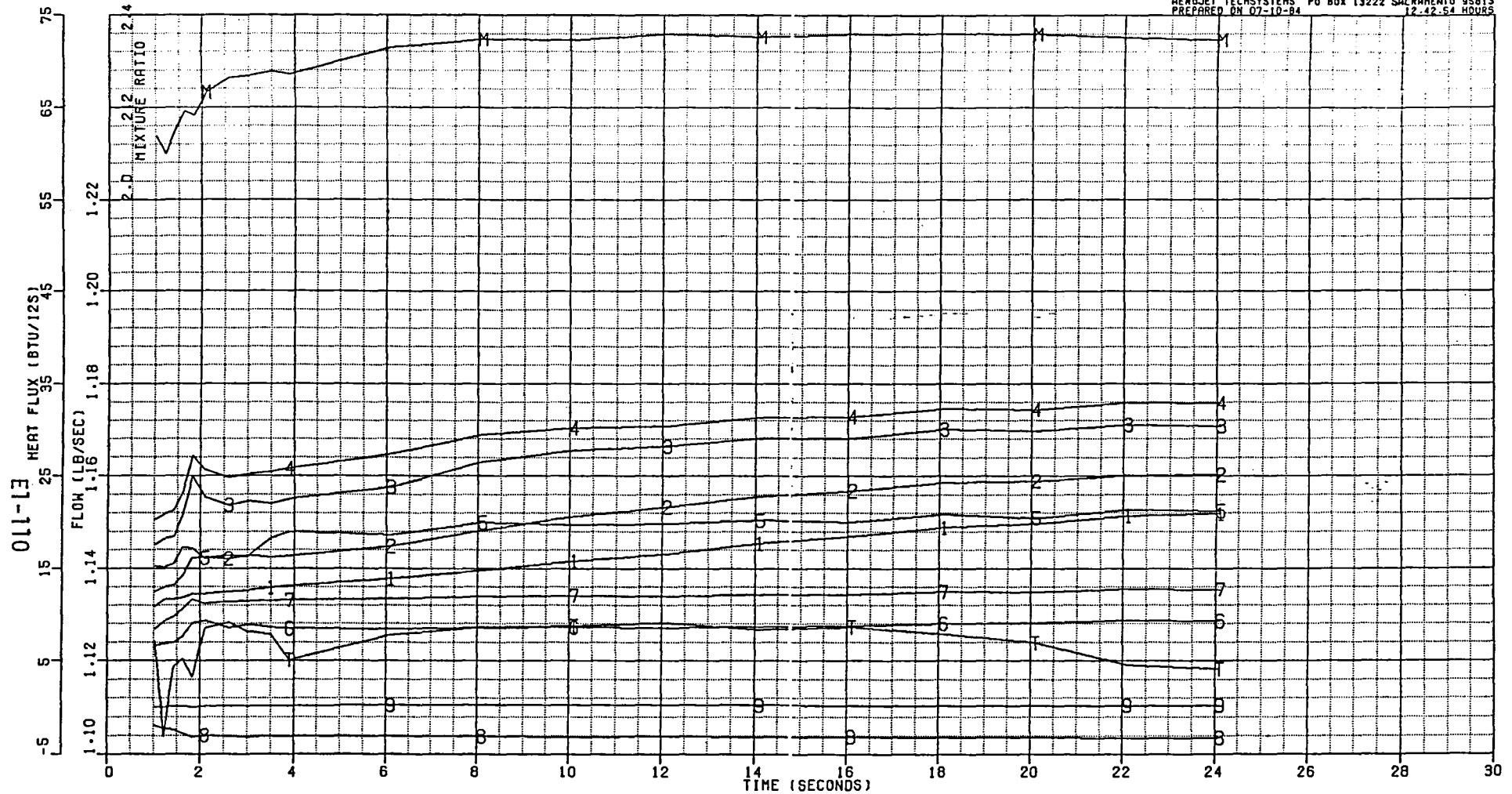


1 Q/AN1-2 BTU/12S M MR
2 Q/AN1-3 BTU/12S
3 Q/AN2-1 BTU/12S
4 Q/AN2-2,-3 BTU/12S
6 Q/AN3 BTU/12S
9 Q/AN4 BTU/12S
0 Q/AN5 BTU/12S
T WTOT LBS/SEC

HEAT FLUX (Q/A) VS TIME
TEST NO. RLBL-936-222

NOZZLE DATA

TEST DATE 06-08-84 1111 HOURS AVERAGED DATA

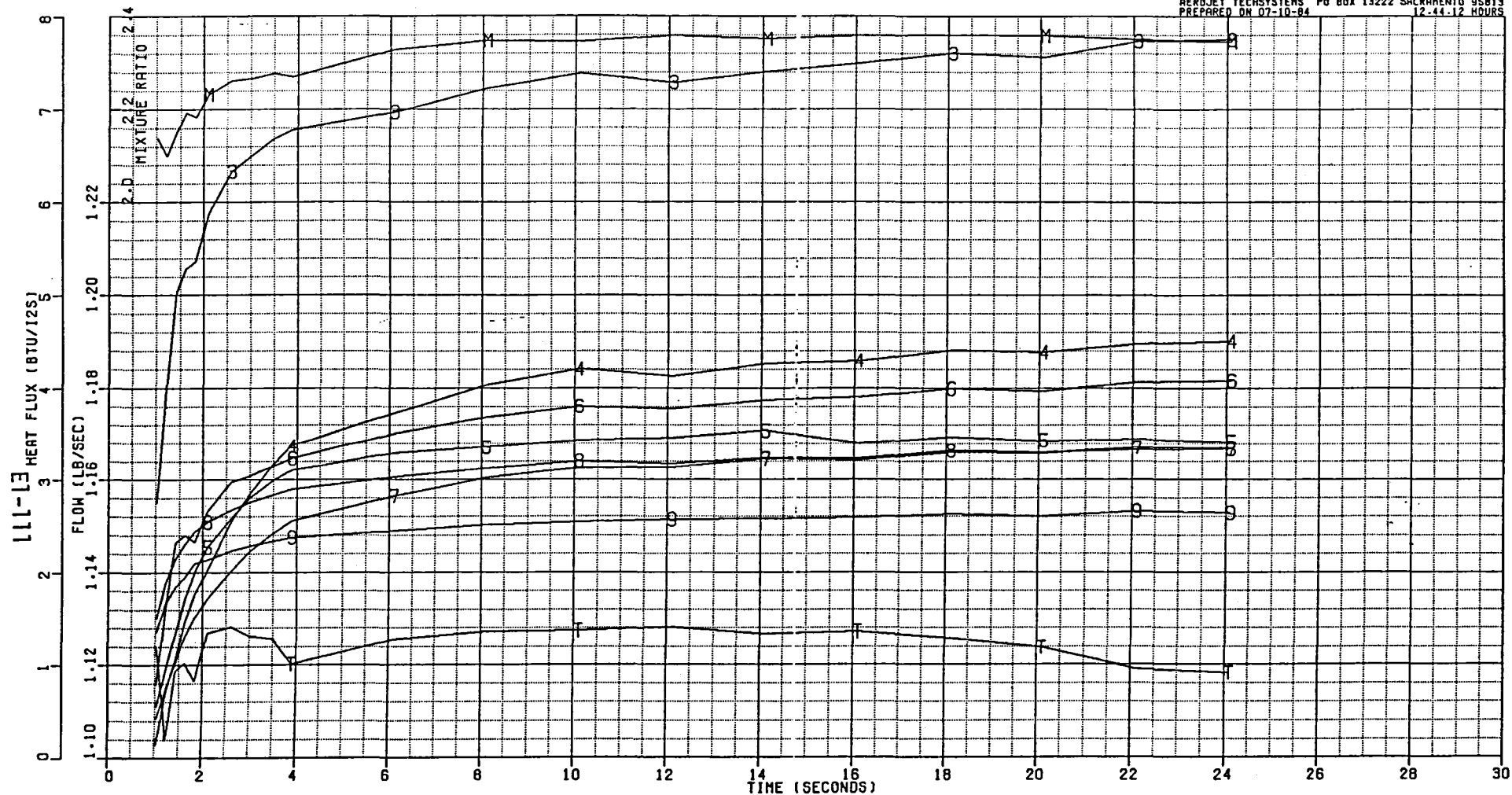


1 Q/AN6	BTU/12S	9 Q/AN12-3	BTU/12S
2 Q/AN7	BTU/12S	T WTOT	LBS/SEC
3 Q/AN8	BTU/12S	M MR	
4 Q/AN9	BTU/12S		
5 Q/AN10	BTU/12S		
6 Q/AN11	BTU/12S		
7 Q/AN12-1	BTU/12S		
8 Q/AN12-2	BTU/12S		

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-222

NOZZLE DATA

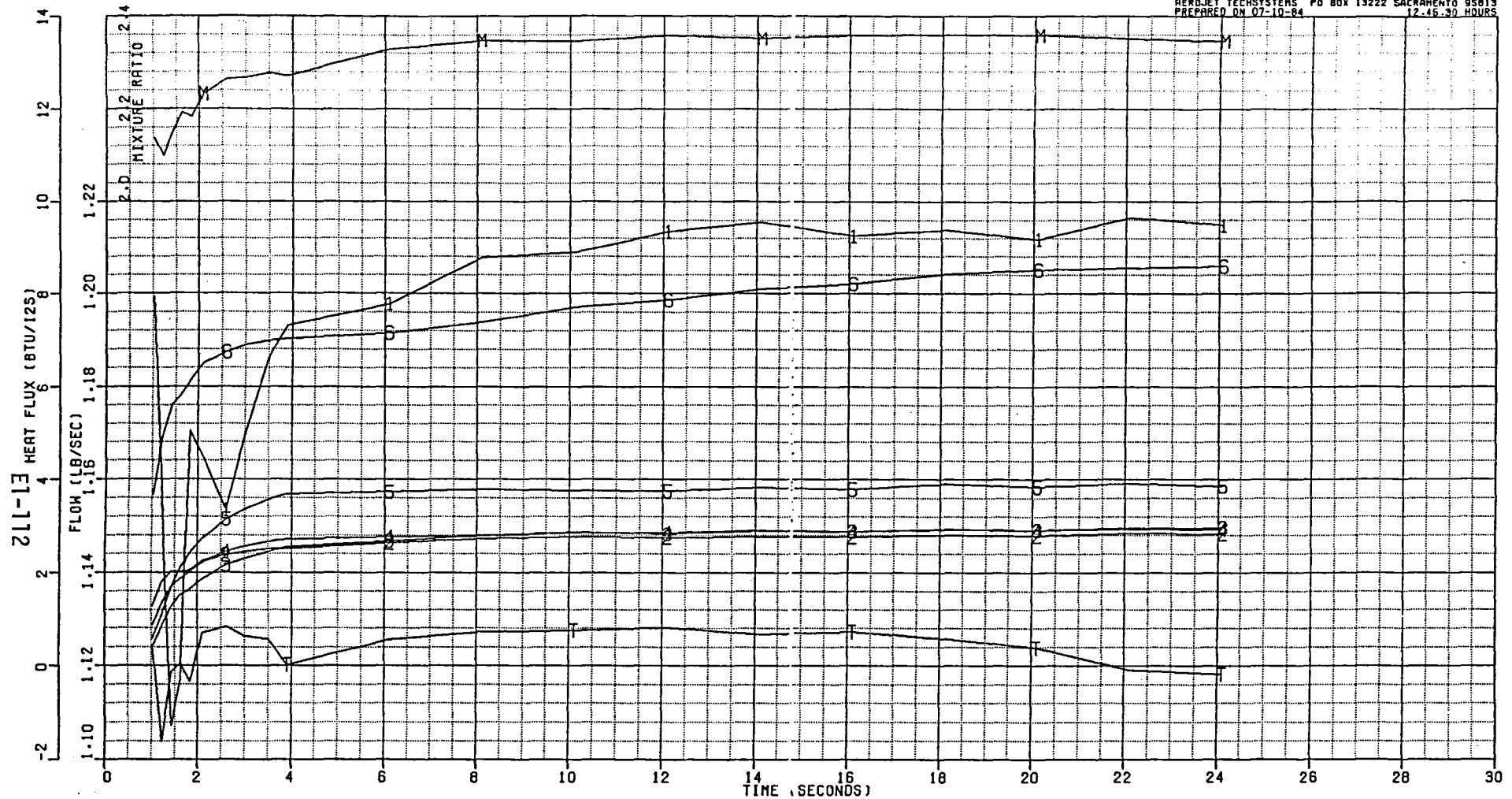
TEST DATE 06-08-84 1111 HOURS AVERAGED DATA



3 Q/A8B1-1 BTU/12S M MR
 4 Q/A8B2 BTU/12S
 5 Q/A8B1-2 BTU/12S
 6 Q/A8B4-1 BTU/12S
 7 Q/A8B4-2.3 BTU/12S
 8 Q/A81-1 BTU/12S
 9 Q/A81-2 BTU/12S
 T WTOT LBS/SEC

HEAT FLUX (Q/A) VS TIME BARREL DATA
 TEST NO. RLBL-936-222

TEST DATE 06-08-84 1111 HOURS AVERAGED DATA

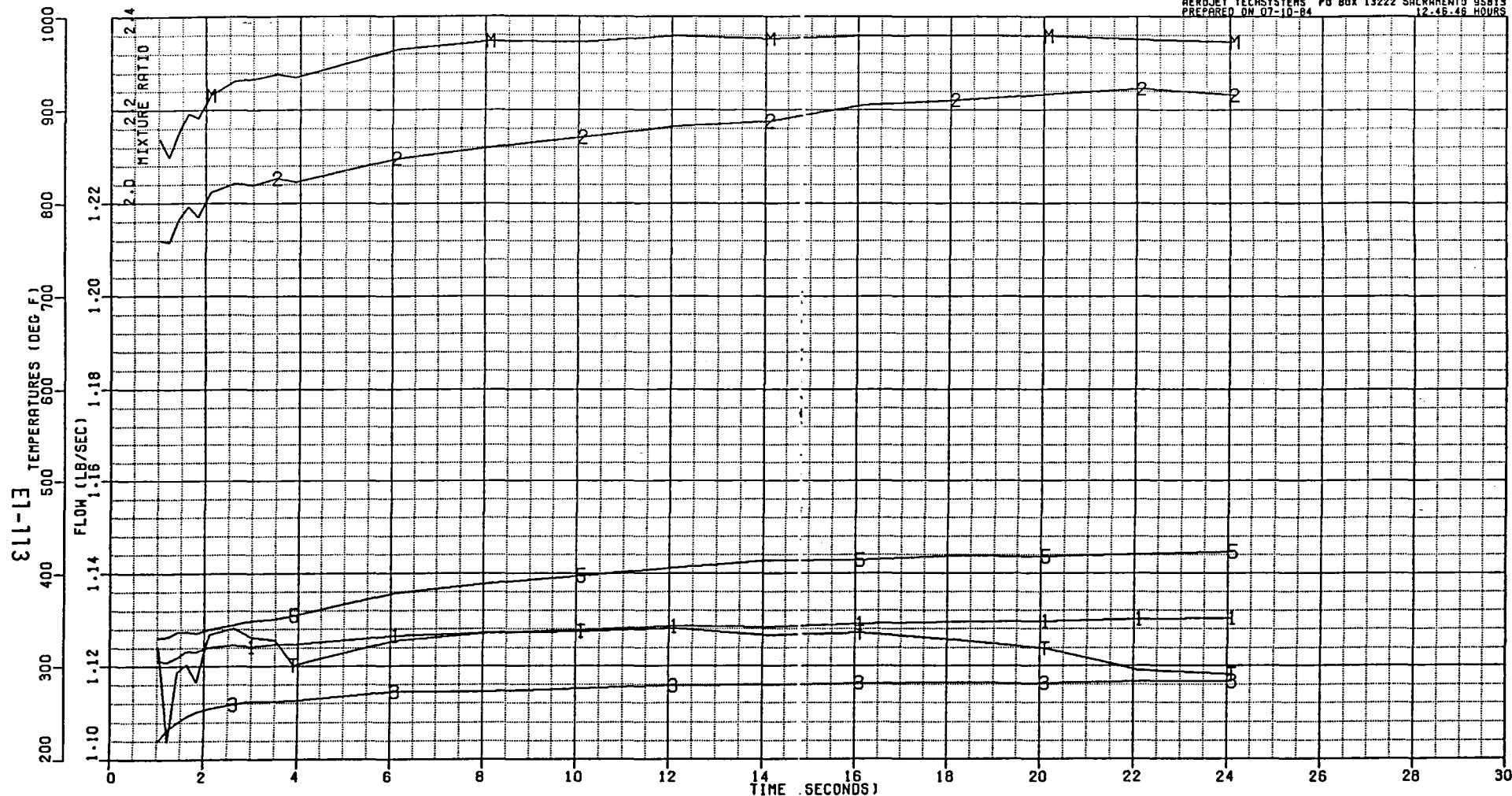


1 Q/ATRC BTU/12S
 2 Q/A12B6-1 BTU/12S
 3 Q/A12B6-2.5 BTU/12S
 4 Q/A12B3.4 BTU/12S
 5 Q/A12B1-2.2 BTU/12S
 6 Q/A12B1-1 BTU/12S
 T WTOT LBS/SEC
 M MR

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-222

MISC. DATA

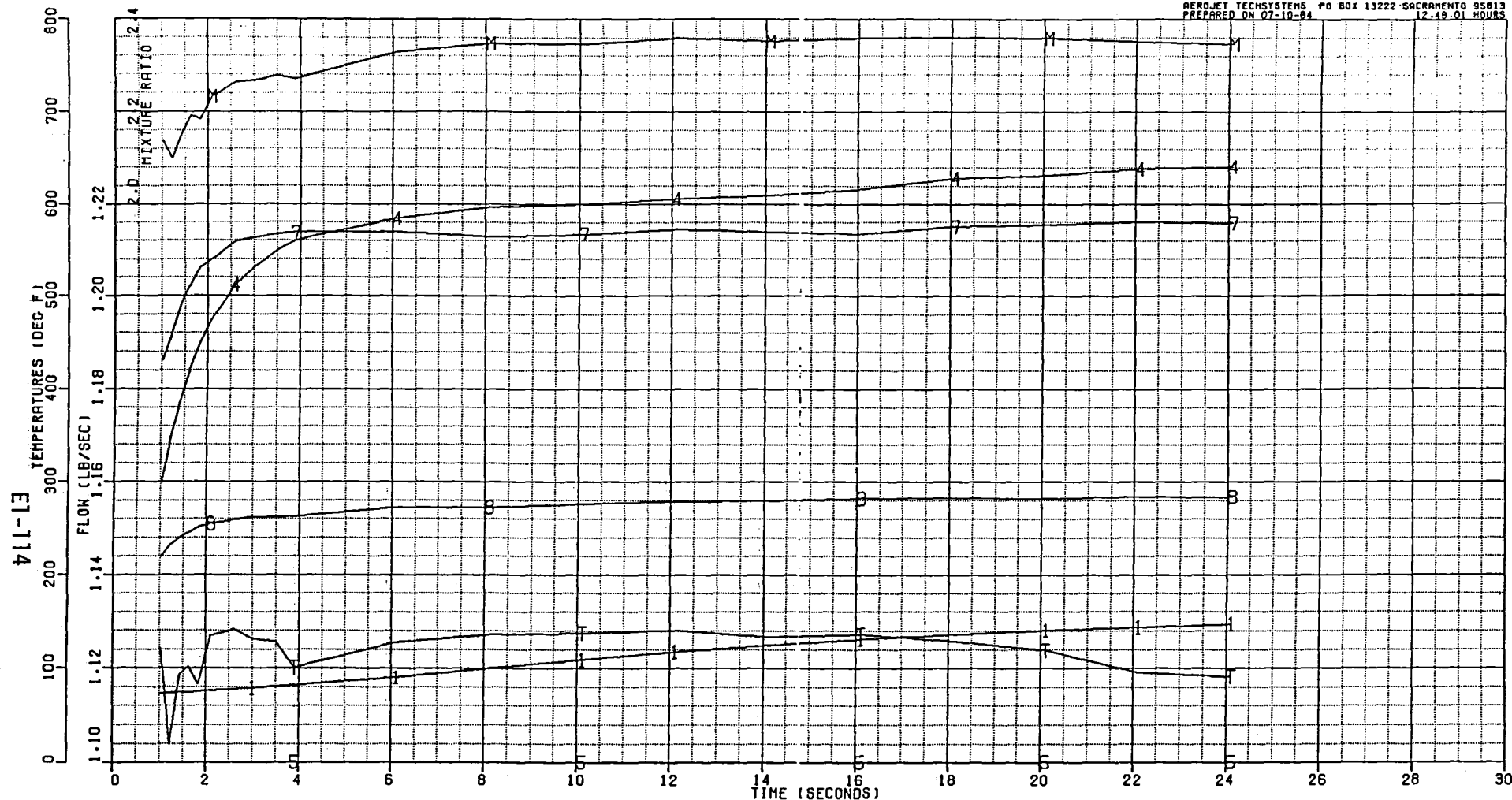
TEST DATE 06-08-84 1111 HOURS AVERAGED DATA



1 TC-1 DEG F
 2 TC-2 DEG F
 3 TC-3 DEG F
 5 TC-5 DEG F
 T WTOT LBS/SEC
 M MR

GAS SIDE WALL TEMPERATURE VS TIME NOZZLE
 TEST NO. RLBL-936-222

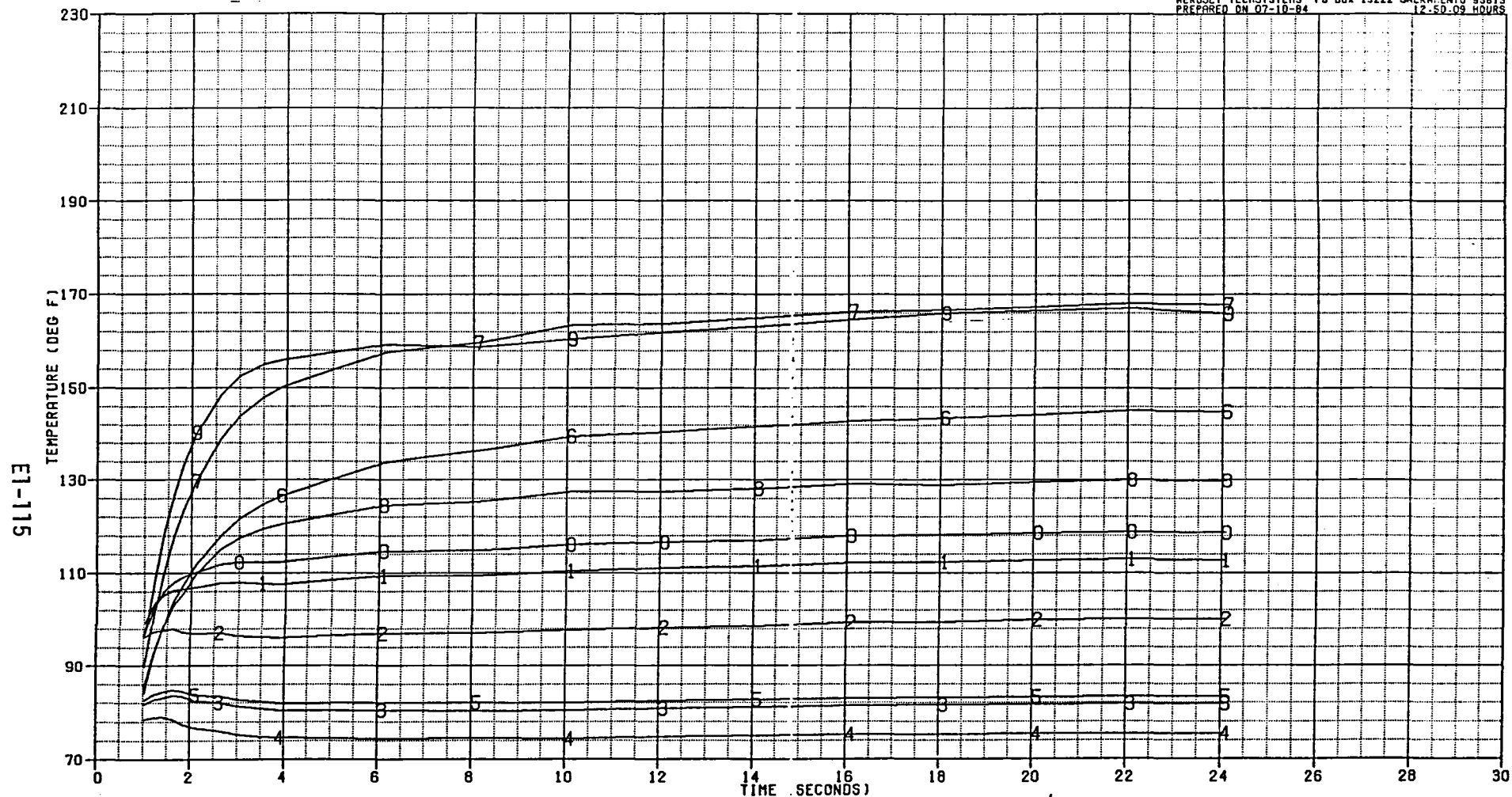
TEST DATE 06-08-84 1111 HOURS AVERAGED DATA



1 TC-7 DEG F
 4 TC-10 DEG F
 5 TC-12 DEG F
 7 TC-13 DEG F
 8 TC-3 DEG F
 T WTOT LBS/SEC
 M MR

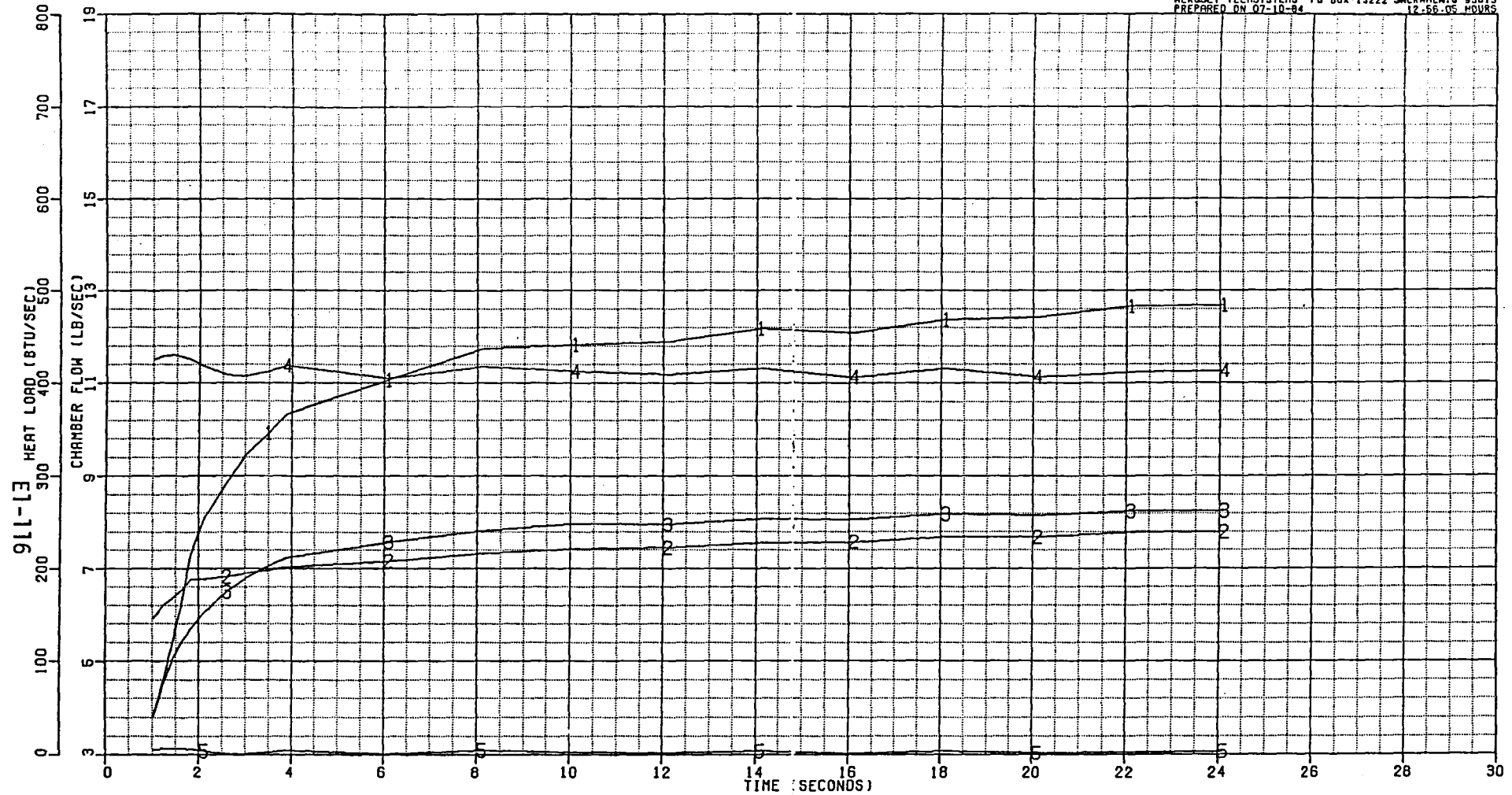
GAS SIDE WALL TEMPERATURE VS TIME BARREL
 TEST NO. RLBL-936-222

TEST DATE 06-08-84 1111 HOURS AVERAGED DATA



0 TWC-6 DEG F 8 TWC-31 DEG F
 1 TWC-7 DEG F 9 TWC-32 DEG F
 2 TWC-10 DEG F
 3 TWC-21 DEG F
 4 TWC-22 DEG F
 5 TWC-23 DEG F
 6 TWC-26 DEG F
 7 TWC-27 DEG F

COOLANT OUTLET TEMPERATURE VS TIME NO 1
 TEST NO. RLBL-936-222
 TEST DATE 06-08-84 1111 HOURS AVERAGED DATA

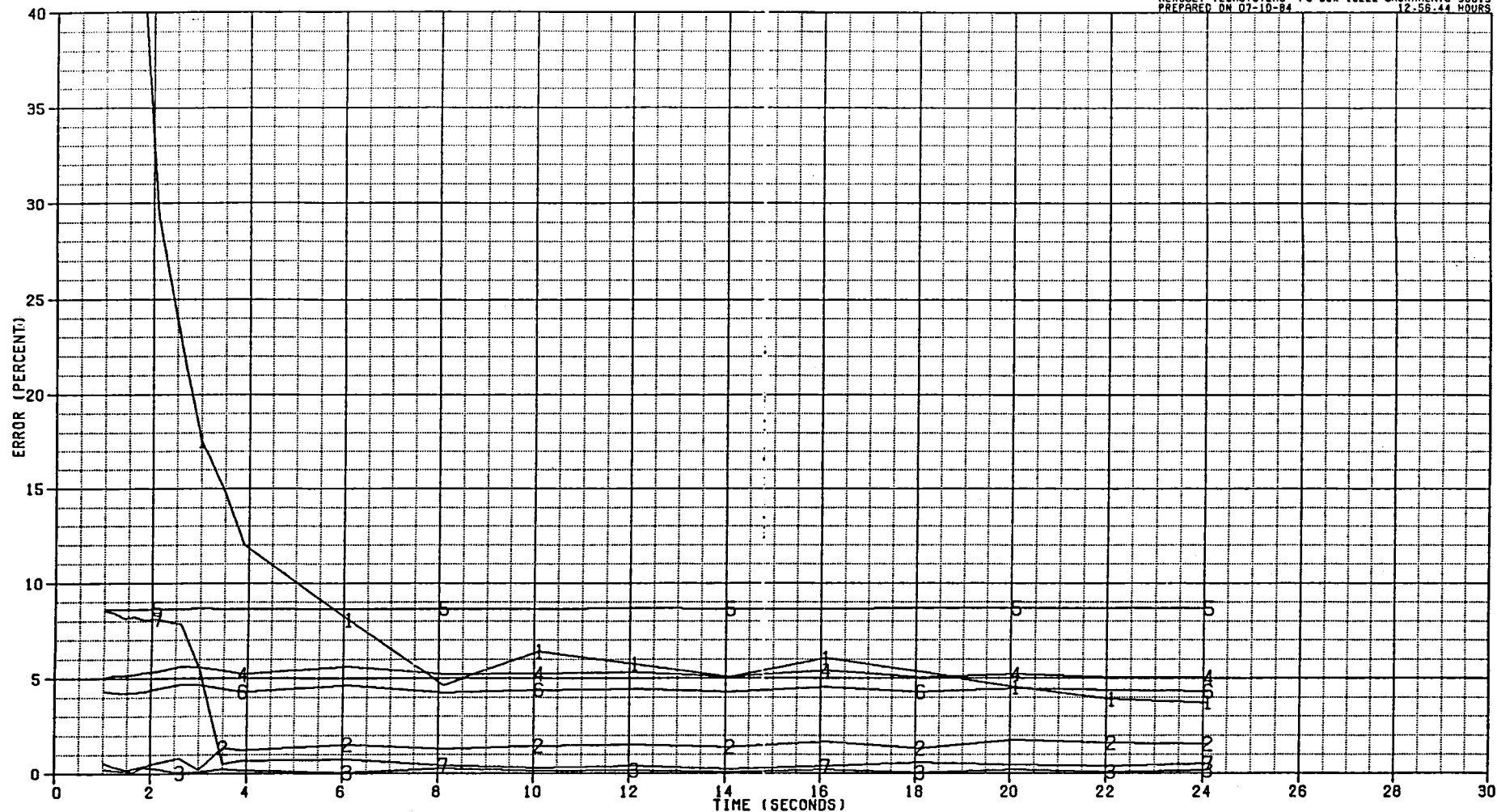


1 QM BTU/SEC
 2 QNT BTU/SEC
 3 QGBT BTU/SEC
 4 WW1 LBS/SEC
 5 WW2 LBS/SEC

CHAMBER FLOW AND HEAT LOAD VS TIME TEST NO. RLBL-936-222

TEST DATE 06-08-84 1111 HOURS AVERAGED DATA

E1-117

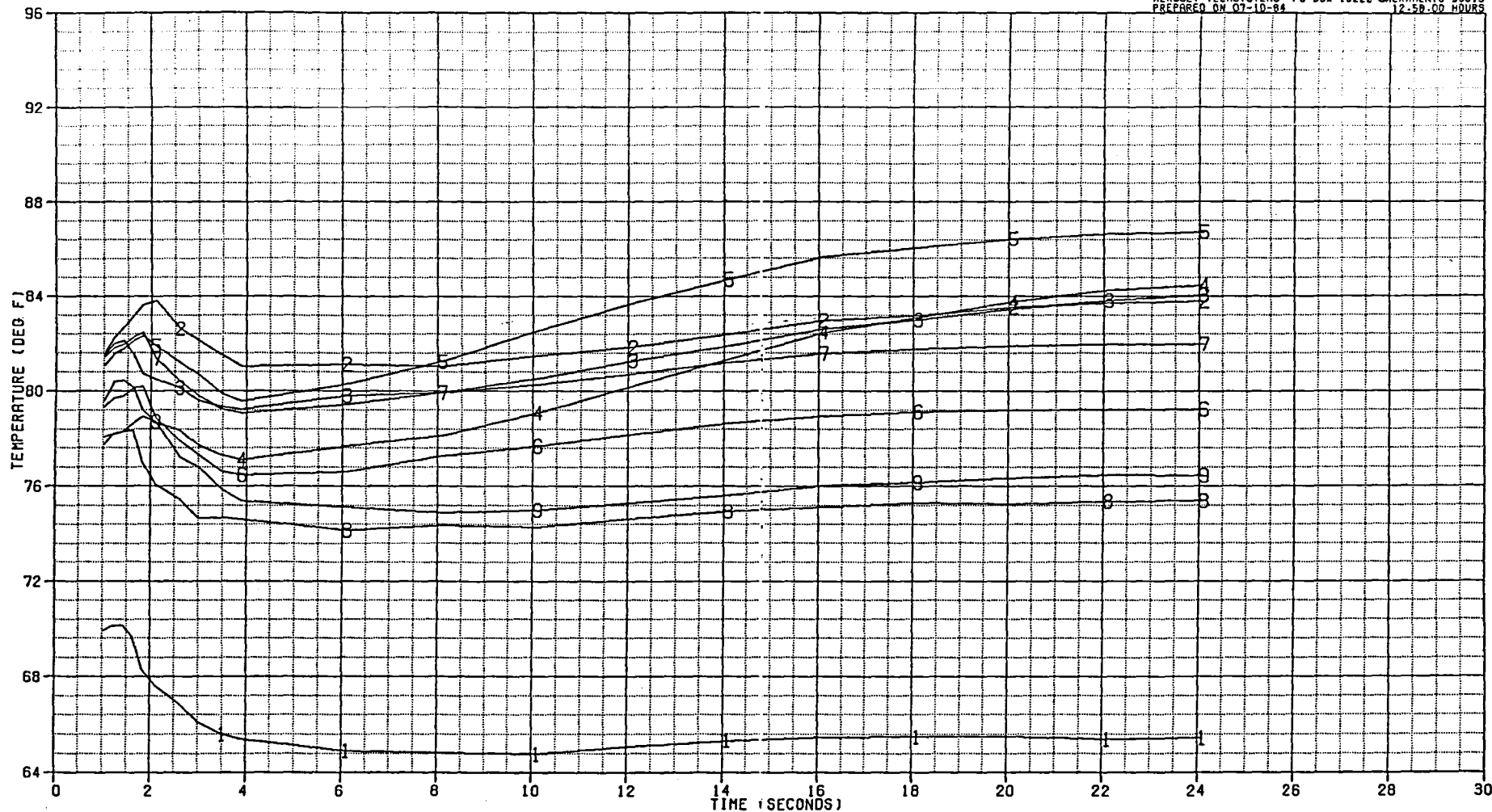


- | | |
|-----------|---------|
| 1 QERM | PERCENT |
| 2 WERNT | PERCENT |
| 3 WER0BT | PERCENT |
| 4 WER12B1 | PERCENT |
| 5 WER12B3 | PERCENT |
| 6 WER12B5 | PERCENT |
| 7 WERN10 | PERCENT |

CHAMBER FLOW + HEAT LOAD ERRORS VS TIME
 TEST NO. RLBL-936-222

TEST DATE 06-08-84 1111 HOURS AVERAGED DATA

EL-118

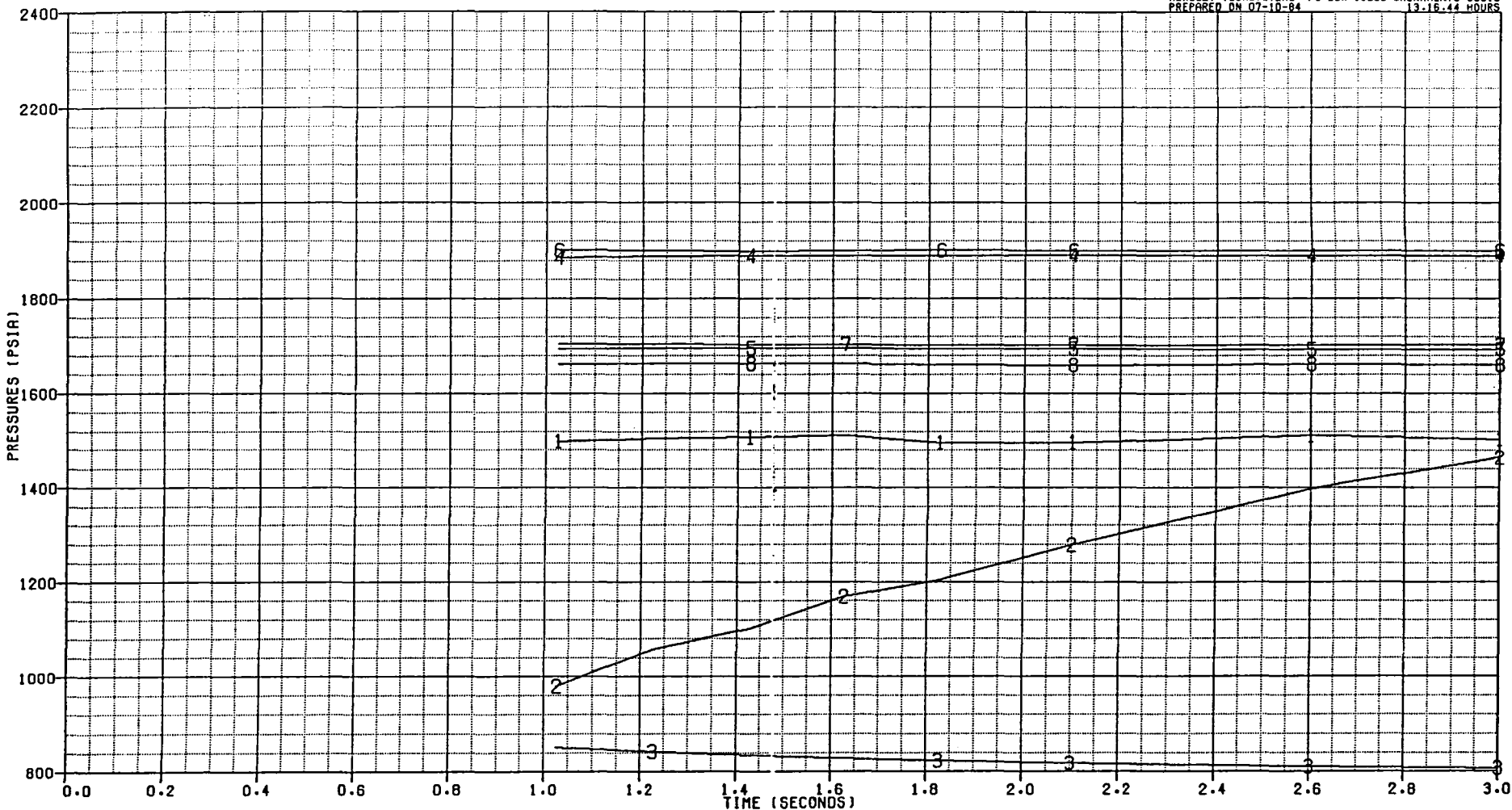


1 TWC-1 DEG F
 2 TWC-13 DEG F
 3 TWC-14 DEG F
 4 TWC-15 DEG F
 5 TWC-16 DEG F
 6 TWC-17 DEG F
 7 TWC-18 DEG F
 8 TWC-19 DEG F
 9 TWC-20 DEG F

COOLANT OUTLET TEMPERATURE VS TIME NO 2
 TEST NO. RLBL-936-222

TEST DATE 06-08-84 1111 HOURS AVERAGED DATA

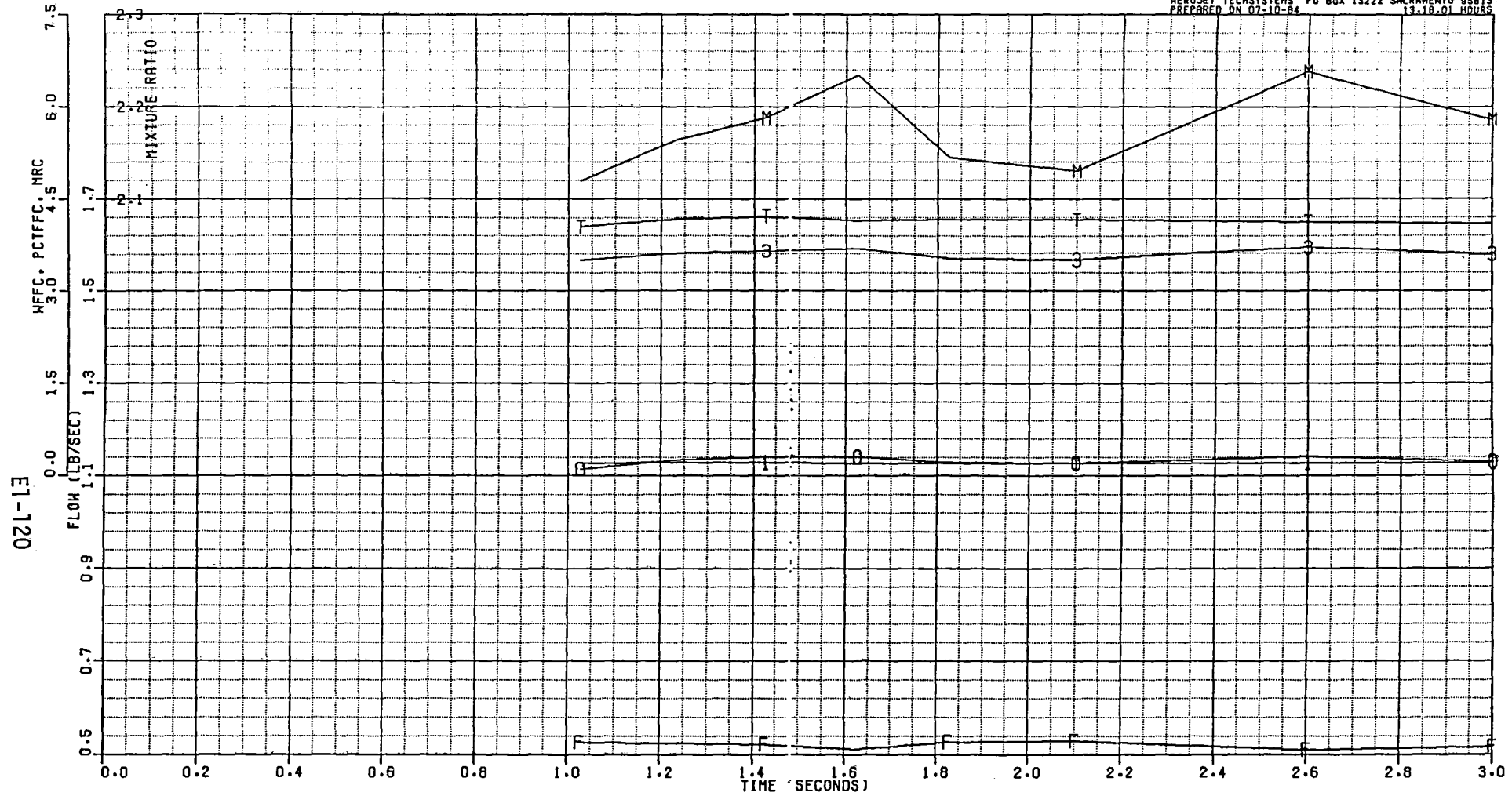
61-119



- | | | |
|---|-------|------|
| 1 | PC-1 | PSIA |
| 2 | PQJI | PSIA |
| 3 | PFJI | PSIA |
| 4 | PQJ | PSIA |
| 5 | PFJ | PSIA |
| 6 | POT | PSIA |
| 7 | PFT | PSIA |
| 8 | PFC-1 | PSIA |

INJECTOR PRESSURES VS TIME TEST NO. RLBL-936-223

TEST DATE 06-08-84 1327 HOURS AVERAGED DATA



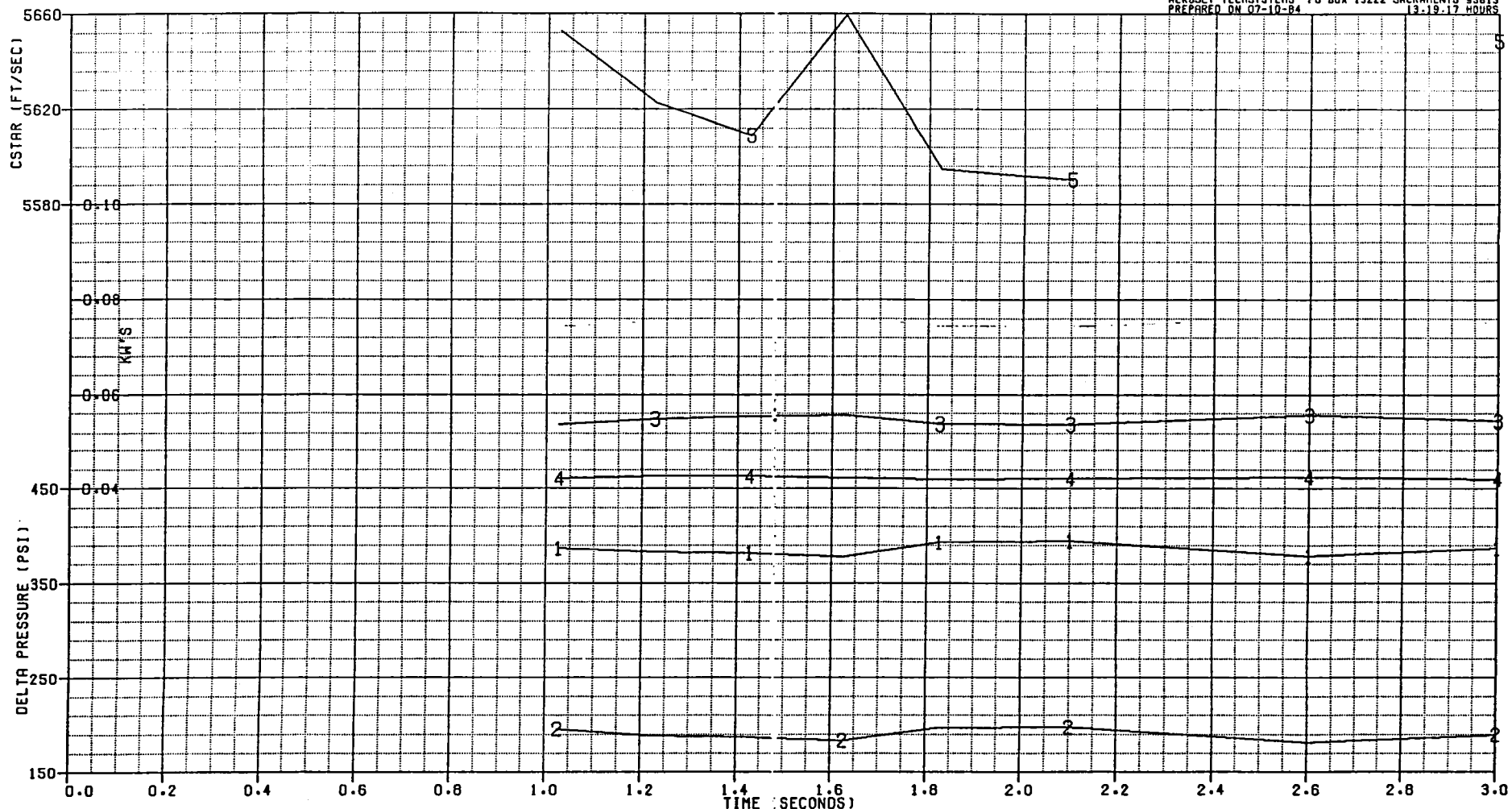
E1-120

F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR
 1 WFFC LBS/SEC
 2 PCTFFC PERCENT
 3 MRC

INJECTOR FLOW VS TIME TEST NO. RLBL-936-223

TEST DATE 06-08-84 1327 HOURS AVERAGED DATA

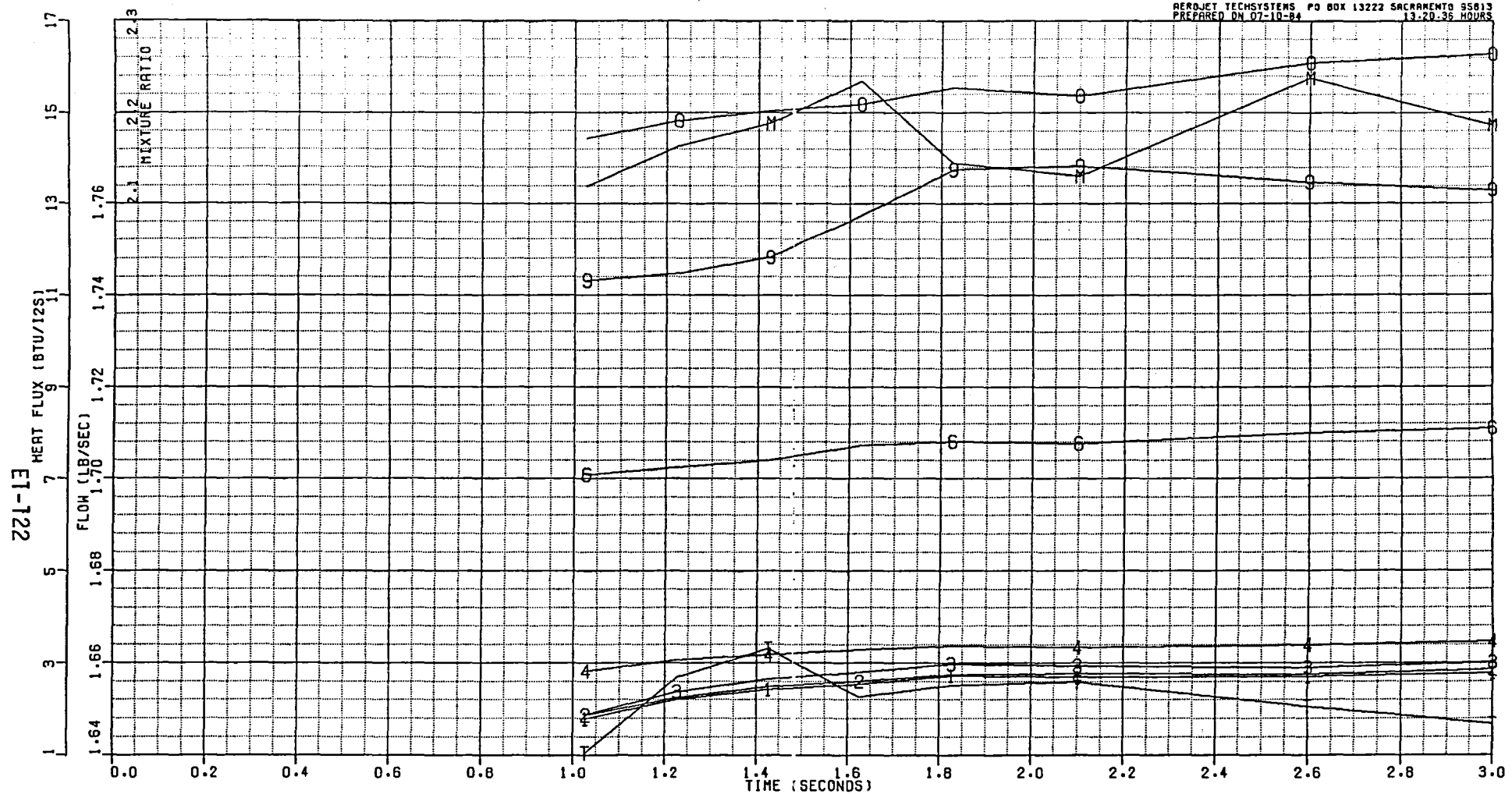
E1-121



1 DPOJ PSI
 2 DPFJ PSI
 3 KHOJ PSI
 4 KWFJ PSI
 5 CSTRMC FT/SEC

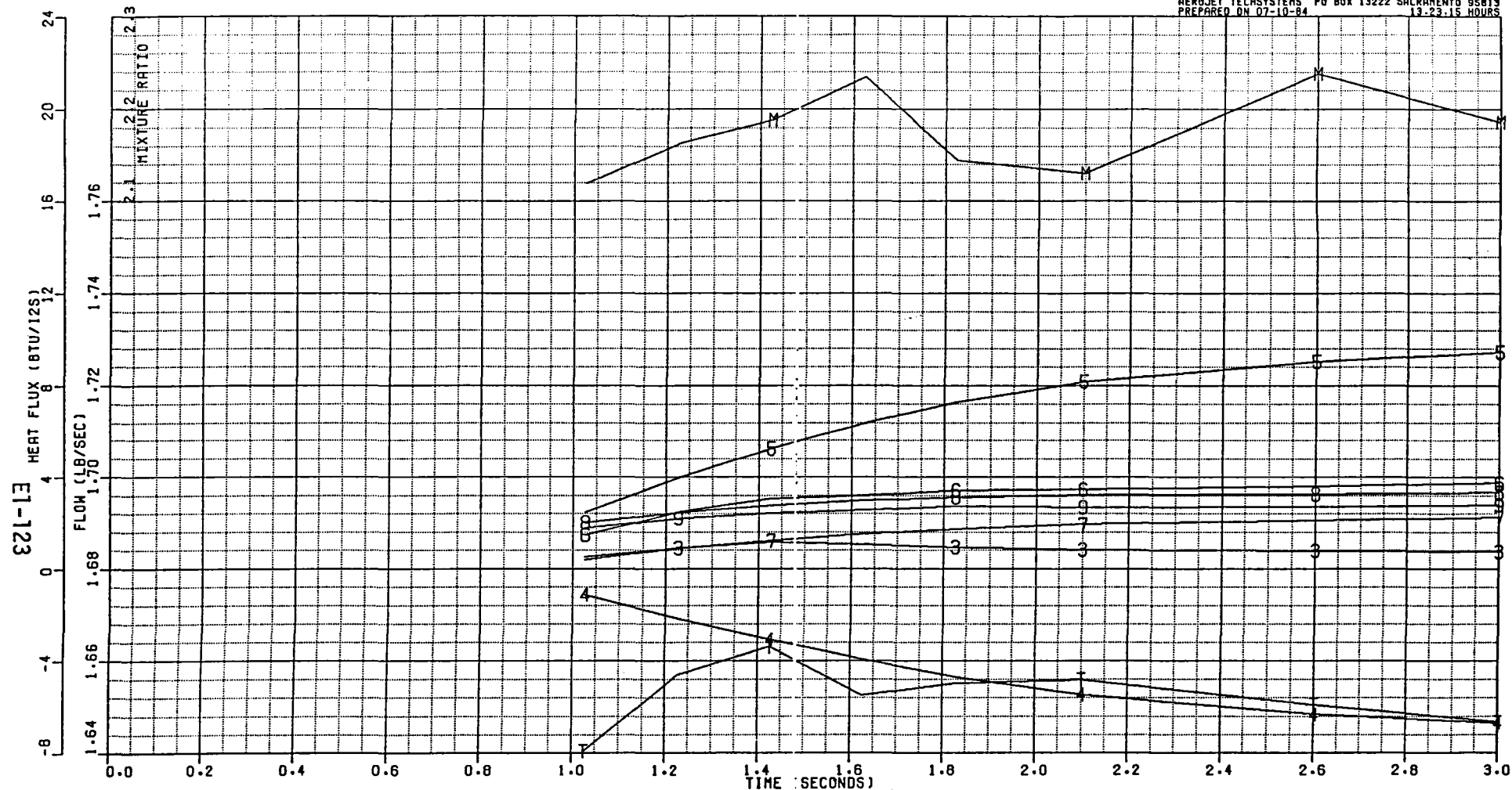
INJECTOR CALCULATIONS VS TIME
 TEST NO. RLBL-936-223

TEST DATE 06-08-84 1327 HOURS AVERAGED DATA



- 1 Q/AN1-2 BTU/12S M. MR
- 2 Q/AN1-3 BTU/12S
- 3 Q/AN2-1 BTU/12S
- 4 Q/AN2-2,-3 BTU/12S
- 6 Q/AN3 BTU/12S
- 9 Q/AN4 BTU/12S
- 0 Q/AN5 BTU/12S
- T WTOT LBS/SEC

HEAT FLUX (Q/A) VS TIME NOZZLE DATA
TEST NO. RLBL-936-223
TEST DATE 06-08-84 1327 HOURS AVERAGED DATA

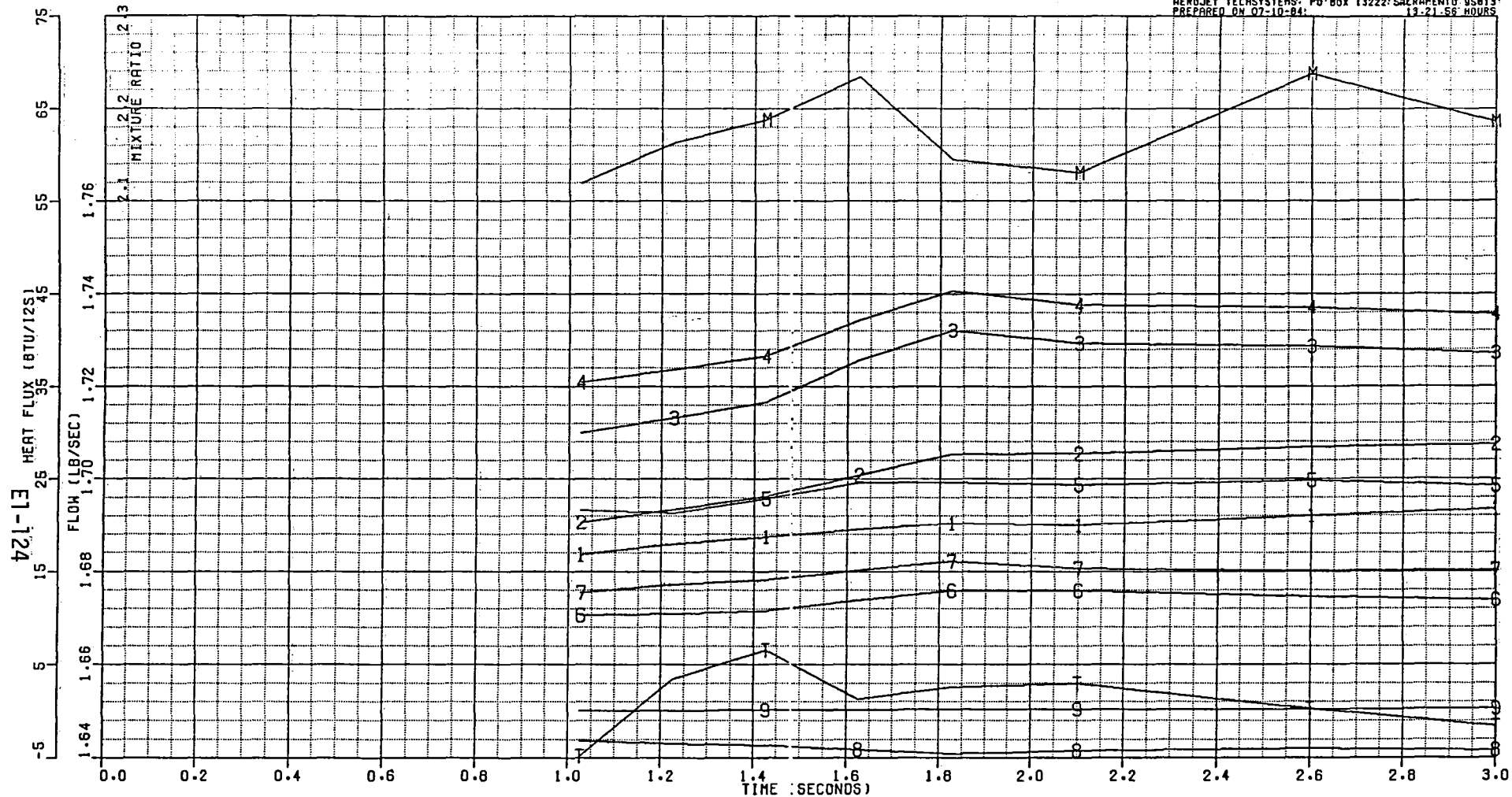


3 Q/A881-1 BTU/I2S M MR
 4 Q/A882 BTU/I2S
 5 Q/A881-2 BTU/I2S
 6 Q/A884-1 BTU/I2S
 7 Q/A884-2.3 BTU/I2S
 8 Q/A81-1 BTU/I2S
 9 Q/A81-2 BTU/I2S
 T WTOT LBS/SEC

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-223

BARREL DATA

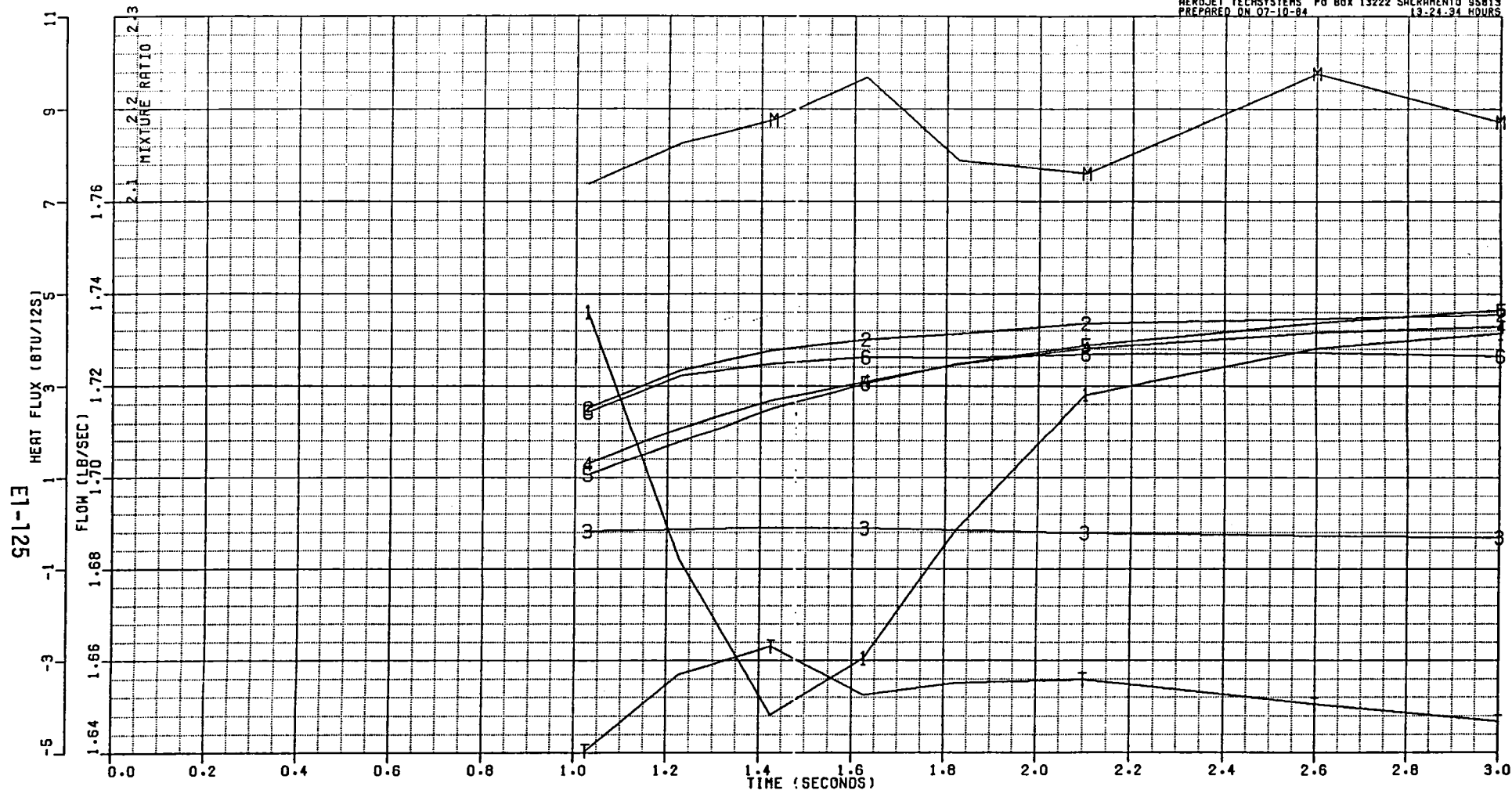
TEST DATE 06-08-84 1327 HOURS AVERAGED DATA



HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-223

NOZZLE DATA

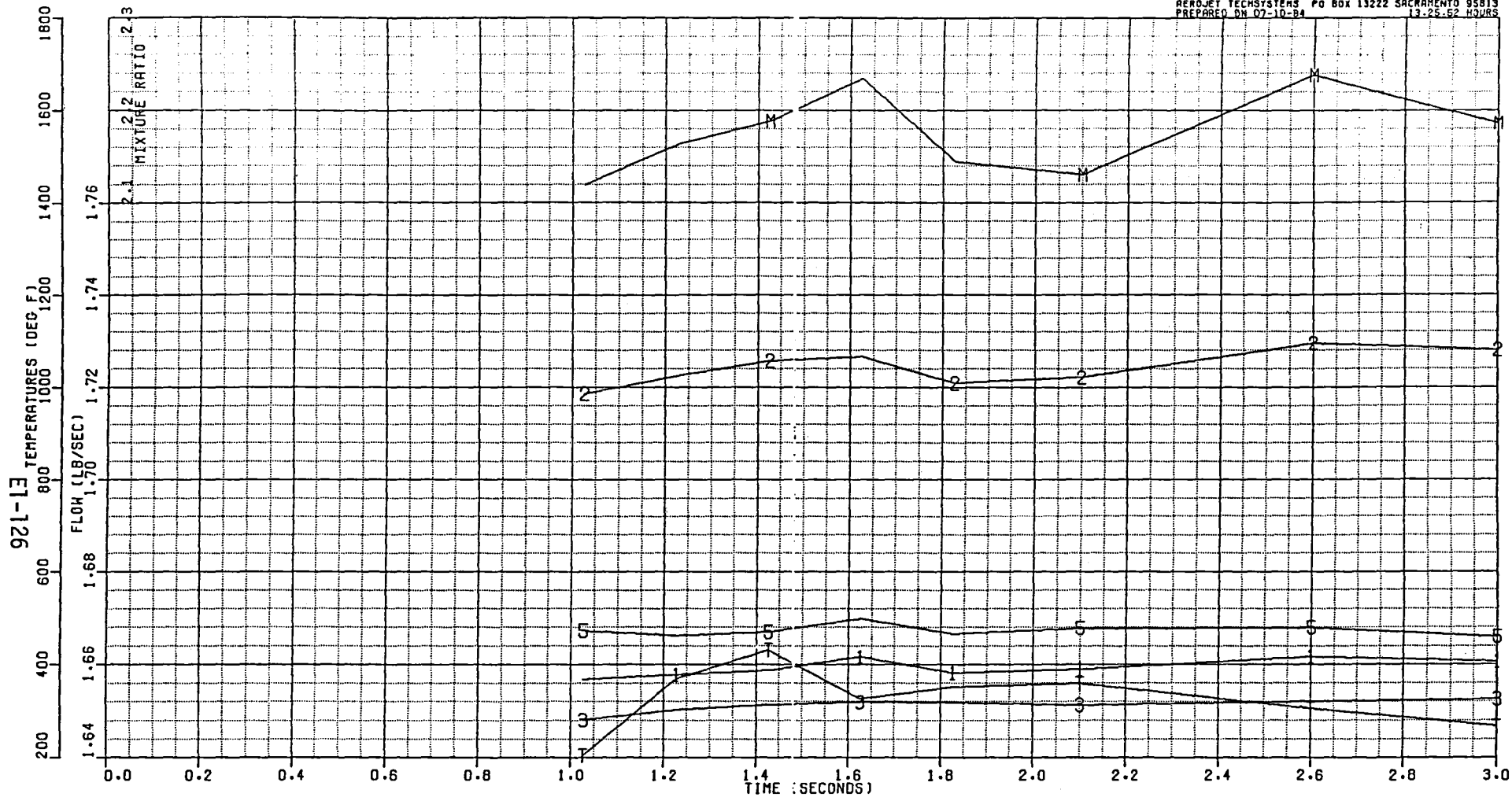
TEST DATE 06-08-84 1327 HOURS AVERAGED DATA



HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-223

MISC. DATA

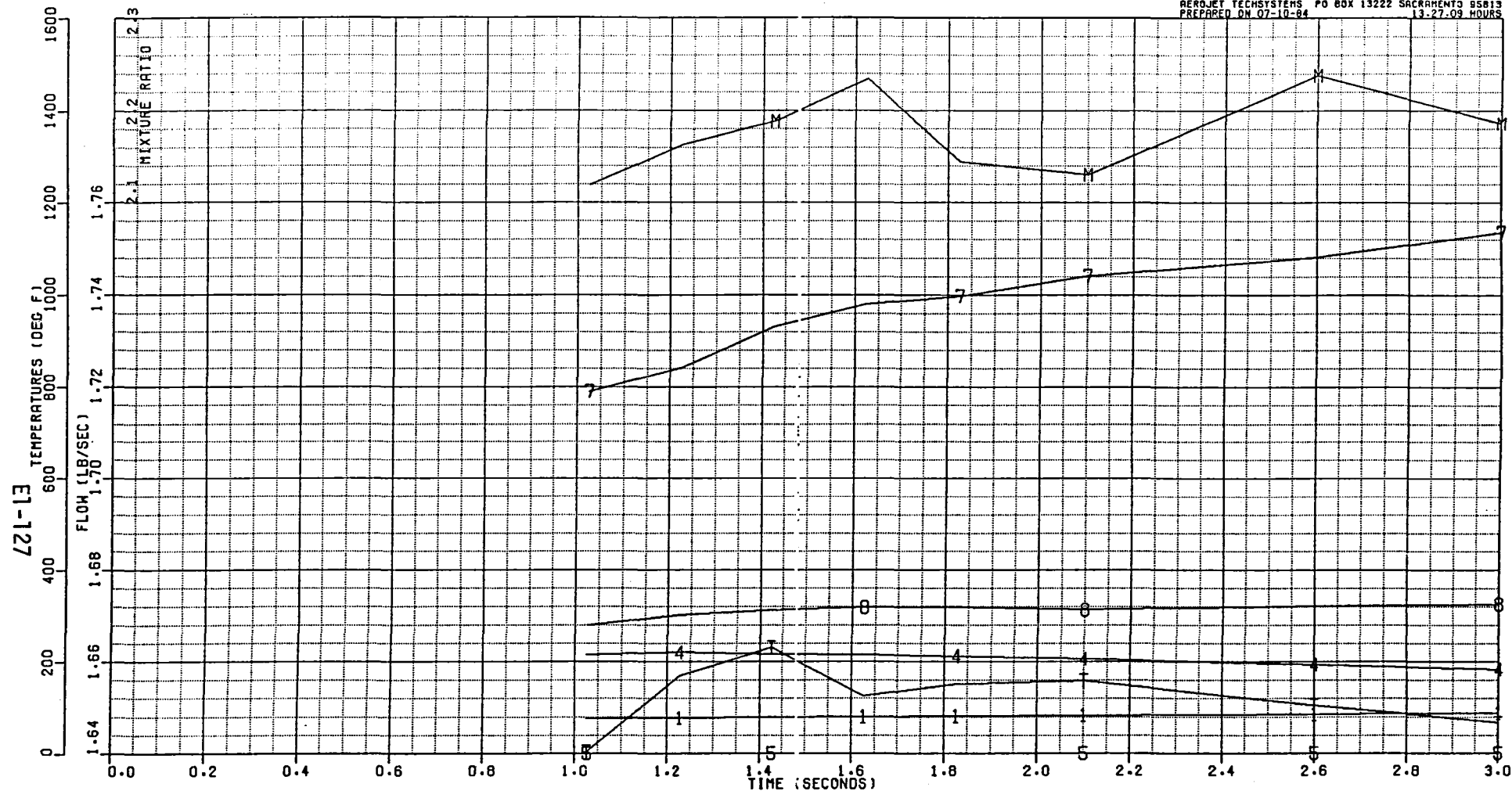
TEST DATE 06-08-84 1327 HOURS AVERAGED DATA



1 TC-1 DEG F
2 TC-2 DEG F
3 TC-3 DEG F
5 TC-5 DEG F
T WTOT DEG F
M MR LBS/SEC

GAS SIDE WALL TEMPERATURE VS TIME NOZZLE
TEST NO. RLBL-936-223

TEST DATE 06-08-84 1327 HOURS AVERAGED DATA

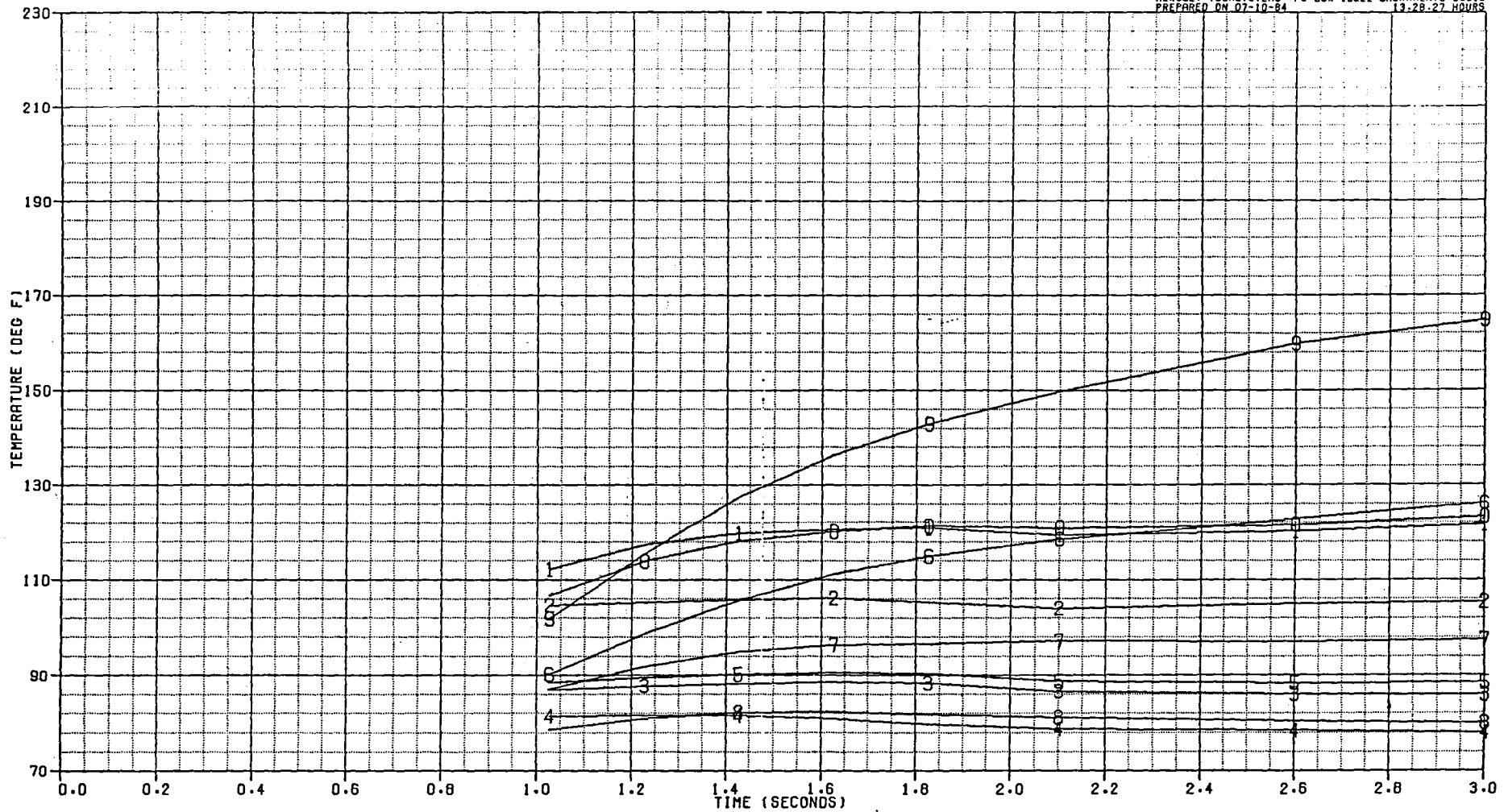


1 TC-7 DEG F
 4 TC-10 DEG F
 5 TC-12 DEG F
 7 TC-13 DEG F
 8 TC-3 DEG F
 1 WTOT LBS/SEC
 M MR

GAS SIDE WALL TEMPERATURE VS TIME BARREL
 TEST NO. RLBL-936-223

TEST DATE 06-08-84 1327 HOURS AVERAGED DATA

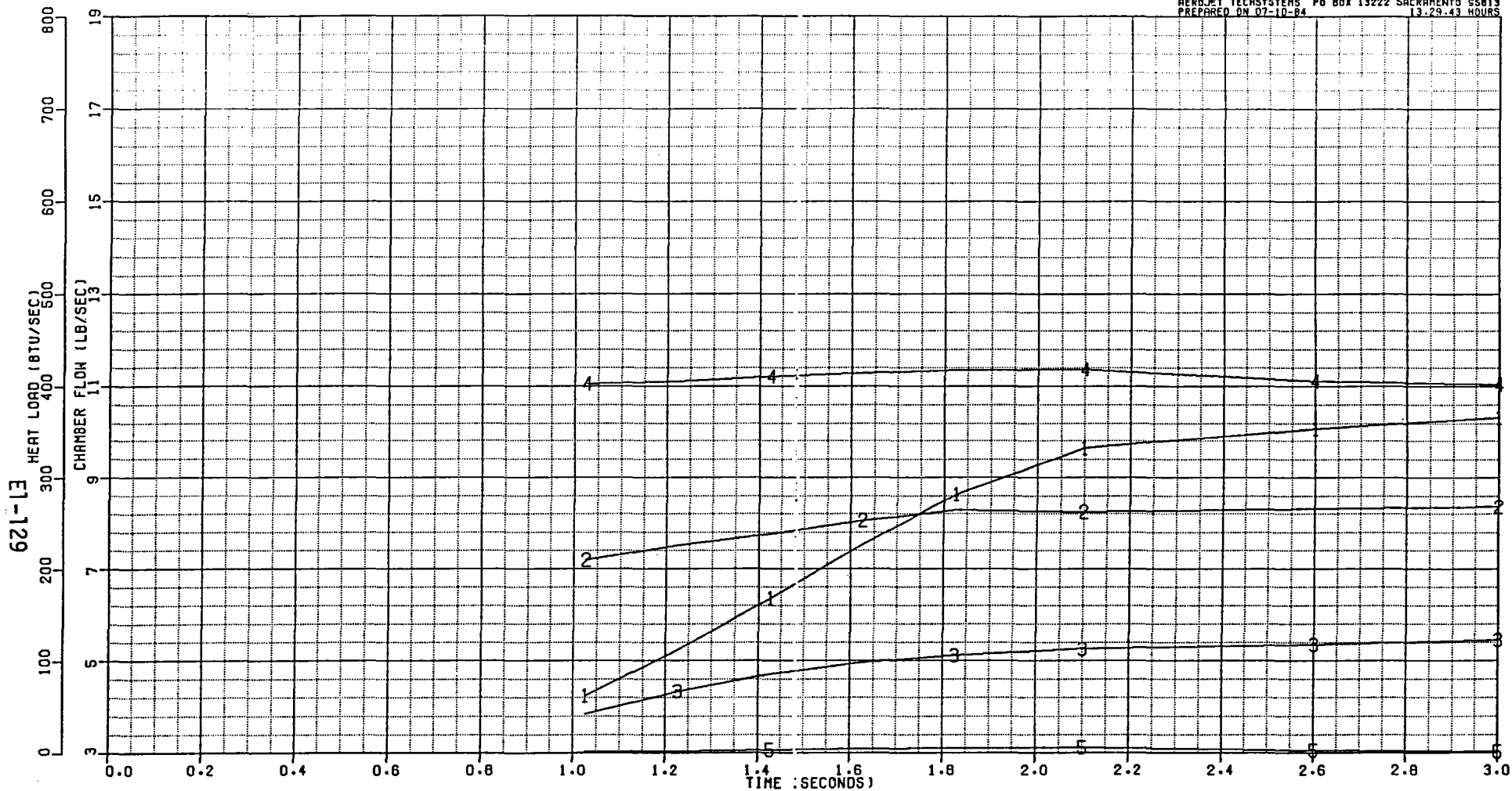
FI-128



0 TWC-6	DEG F	8 TWC-31	DEG F
1 TWC-7	DEG F	9 TWC-32	DEG F
2 TWC-10	DEG F		
3 TWC-21	DEG F		
4 TWC-22	DEG F		
5 TWC-23	DEG F		
6 TWC-26	DEG F		
7 TWC-27	DEG F		

COOLANT OUTLET TEMPERATURE VS TIME NO 1
TEST NO. RLBL-936-223

TEST DATE 06-08-84 1327 HOURS AVERAGED DATA

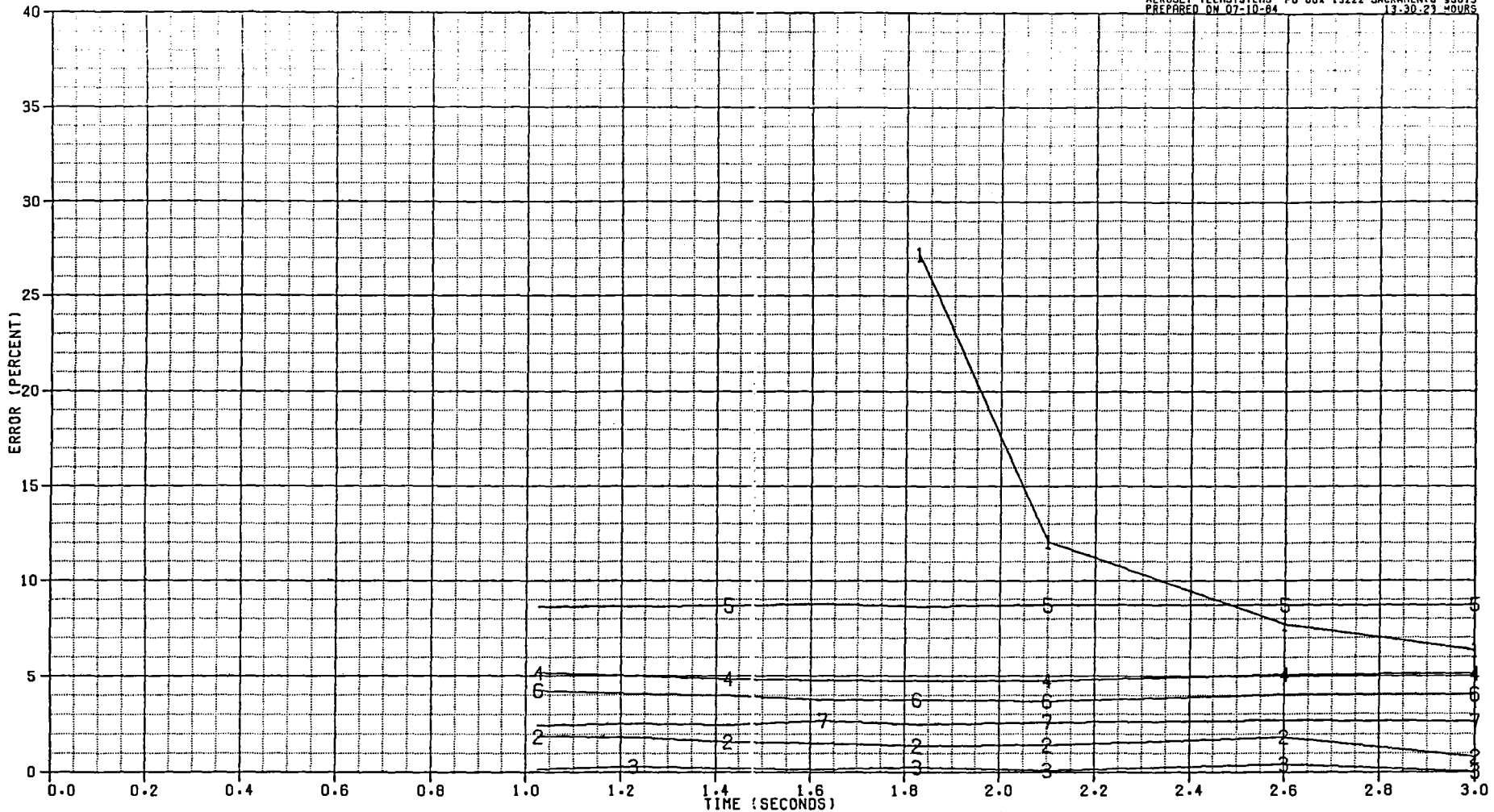


1 QN BTU/SEC
 2 QNT BTU/SEC
 3 Q8BT BTU/SEC
 4 WM1 LBS/SEC
 5 WM2 LBS/SEC

CHAMBER FLOW AND HEAT LOAD VS TIME
 TEST NO. RLBL-936-223

TEST DATE 06-08-84 1327 HOURS AVERAGED DATA

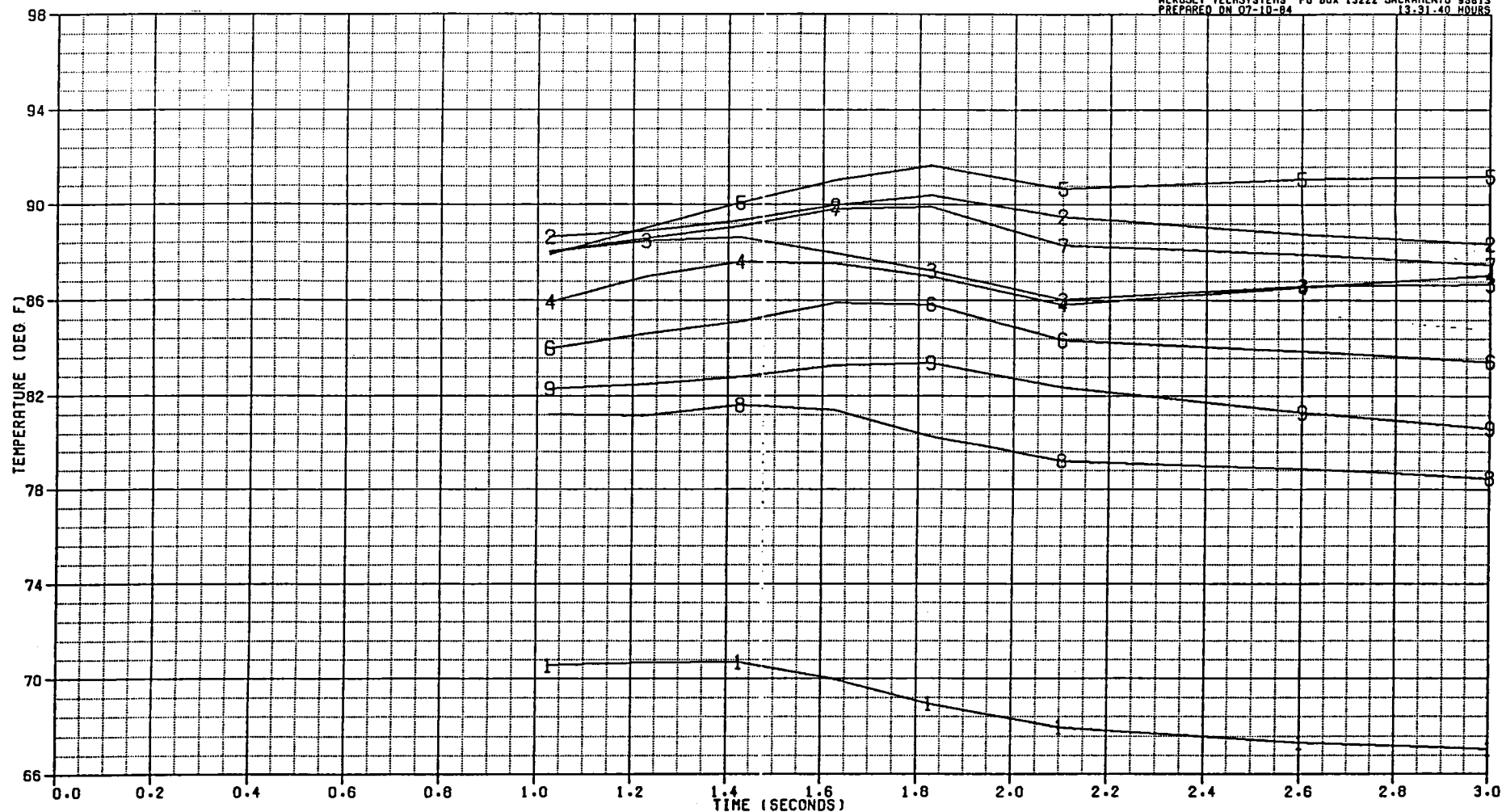
E1-130



- 1 GERM PERCENT
- 2 WERNT PERCENT
- 3 WER8BT PERCENT
- 4 WER12B1 PERCENT
- 5 WER12B3 PERCENT
- 6 WER12B5 PERCENT
- 7 WERN10 PERCENT

CHAMBER FLOW + HEAT LOAD ERRORS VS TIME
 TEST NO. RLBL-936-223
 TEST DATE 06-08-84 1327 HOURS AVERAGED DATA

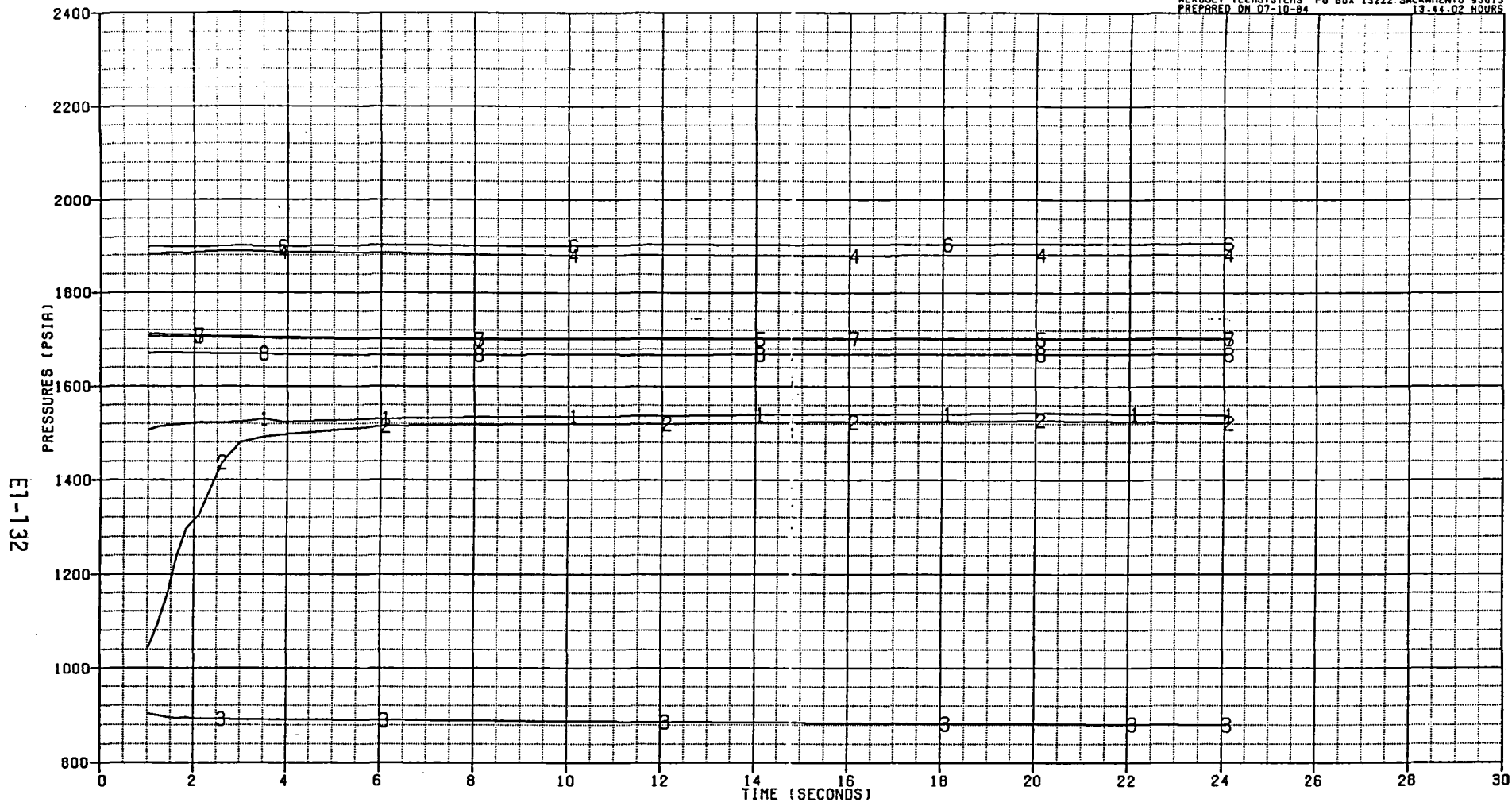
EI-131



1 TWC-1	DEG F	9 TWC-20	DEG F
2 TWC-13	DEG F		
3 TWC-14	DEG F		
4 TWC-15	DEG F		
5 TWC-16	DEG F		
6 TWC-17	DEG F		
7 TWC-18	DEG F		
8 TWC-19	DEG F		

COOLANT OUTLET TEMPERATURE VS TIME NO 2
 TEST NO. RLBL-936-223

TEST DATE 06-08-84 1327 HOURS AVERAGED DATA

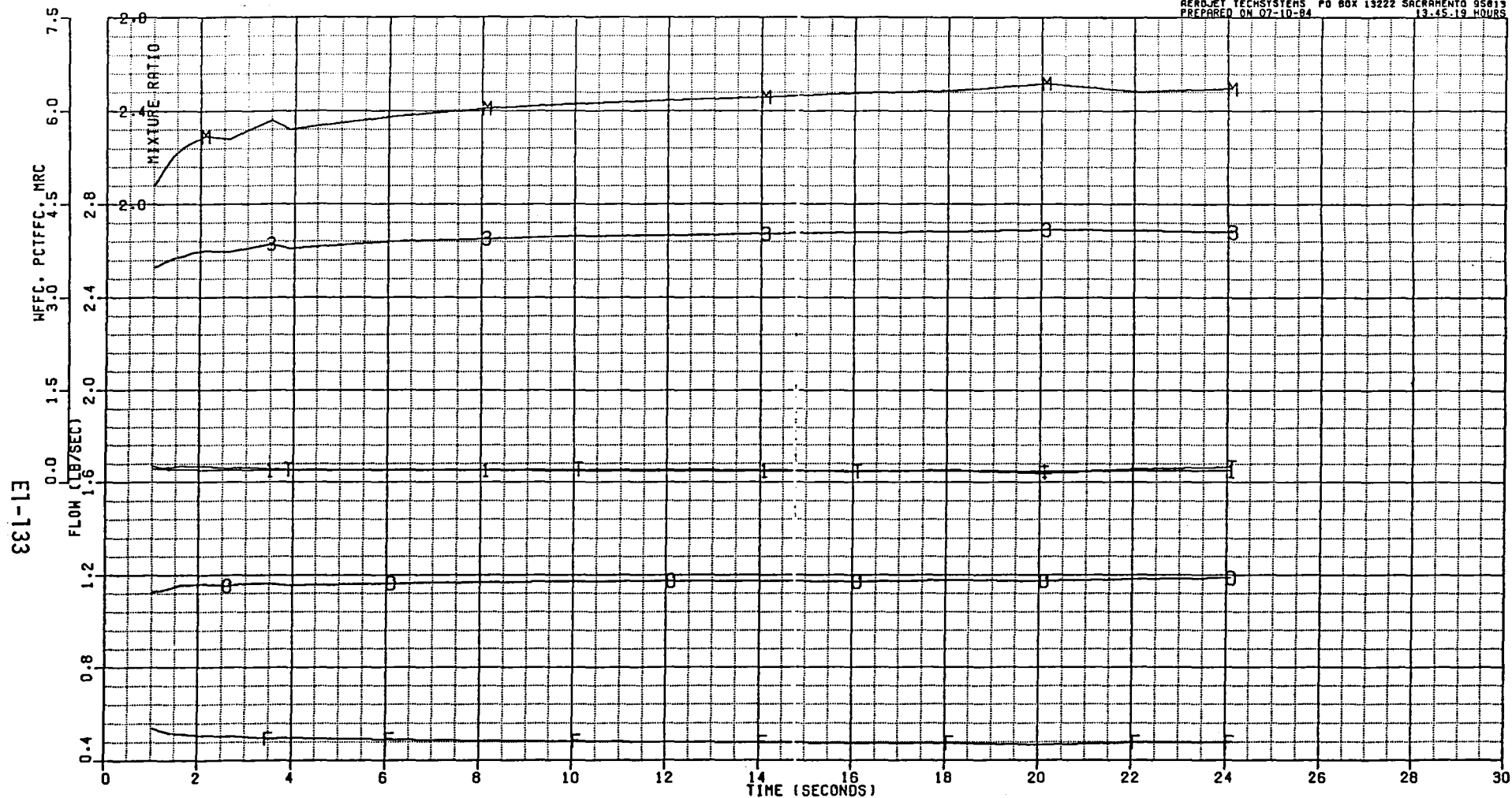


E1-132

- 1 PC-1 PSIA
- 2 POJI PSIA
- 3 PFJI PSIA
- 4 POJ PSIA
- 5 PFJ PSIA
- 6 POT PSIA
- 7 PFT PSIA
- 8 PFC-1 PSIA

INJECTOR PRESSURES VS TIME TEST NO. RLBL-936-224

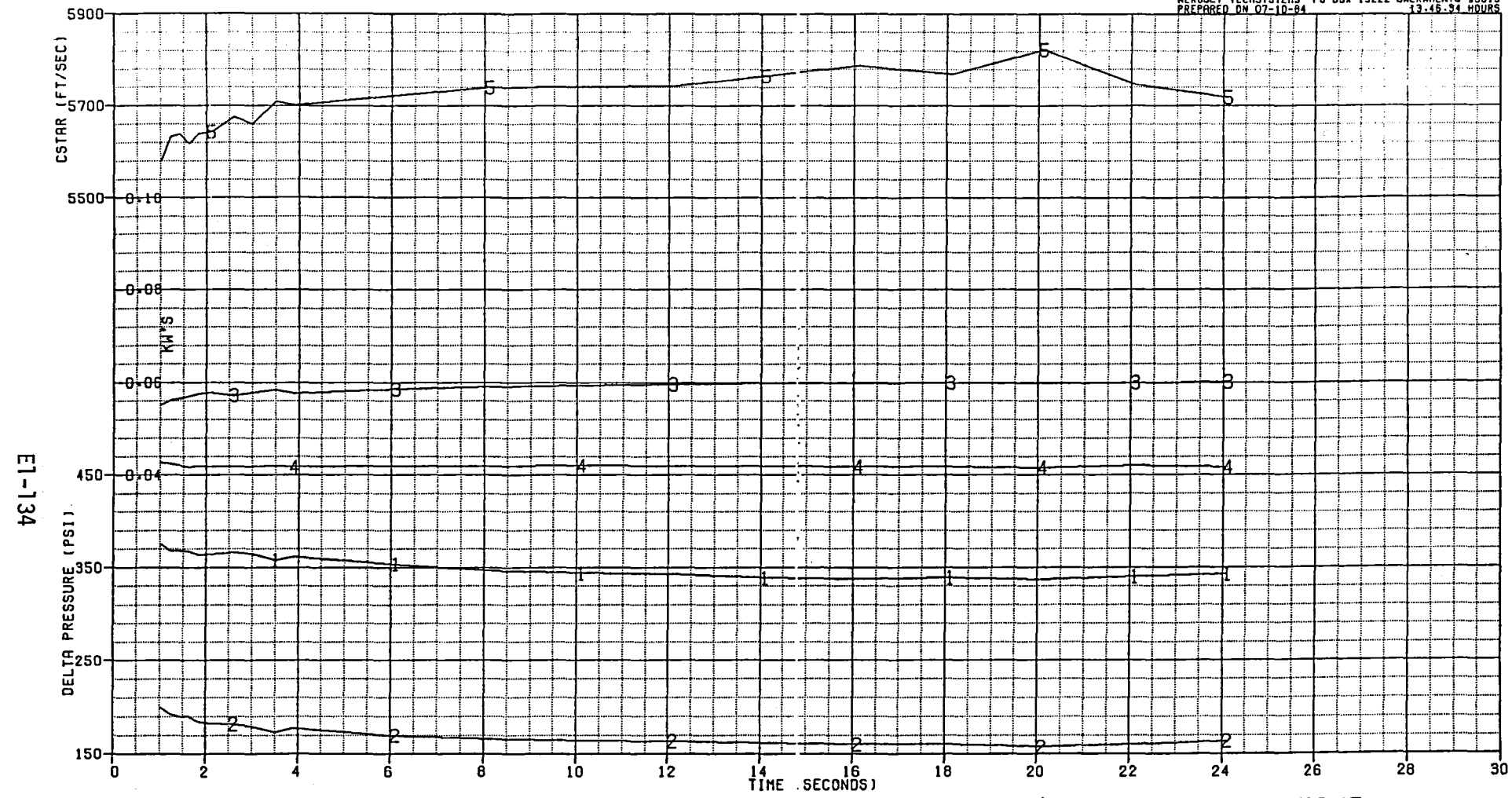
TEST DATE 06-08-84 1357 HOURS AVERAGED DATA



F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR
 I WFFC LBS/SEC
 2 PCTFFC PERCENT
 3 MRC

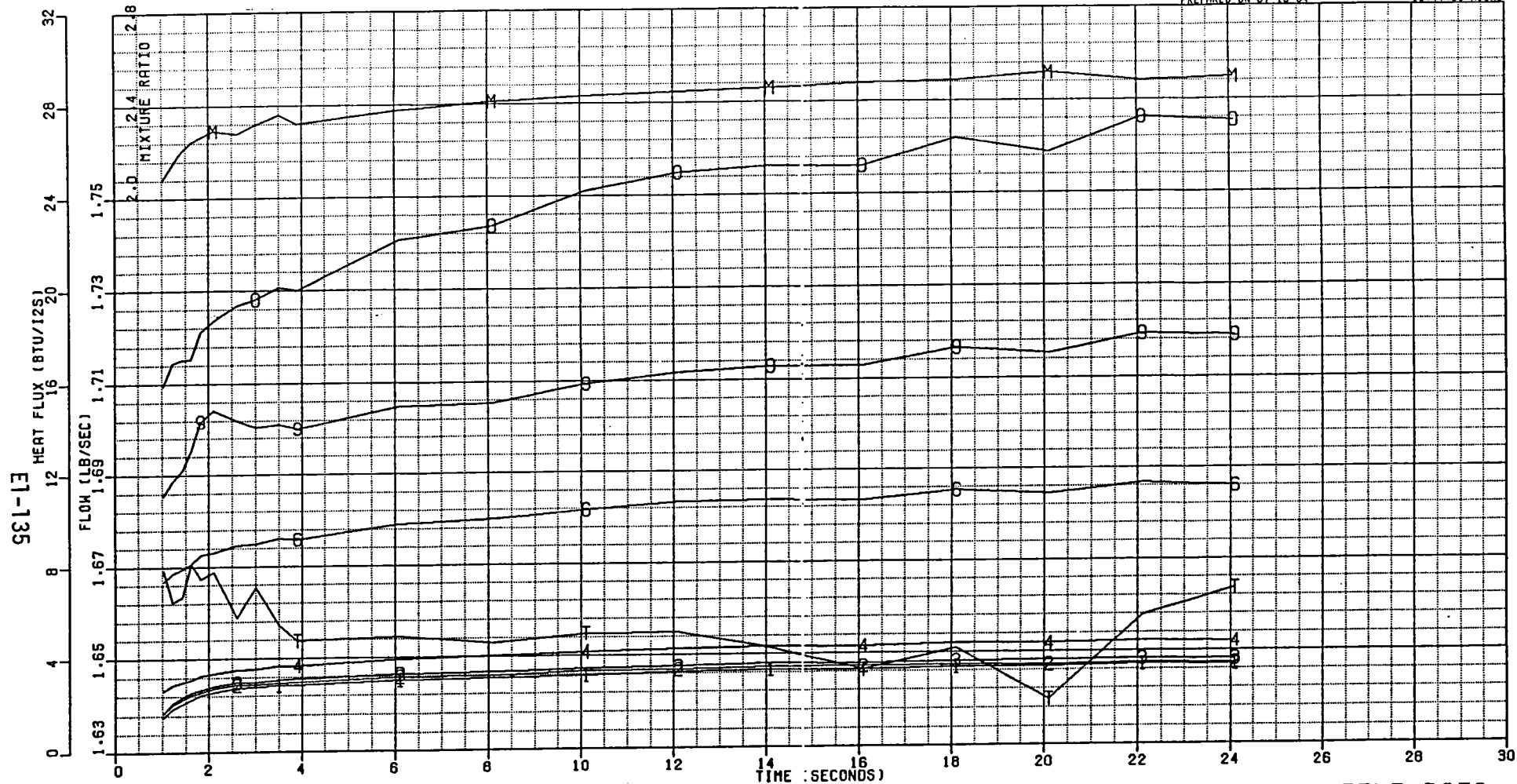
INJECTOR FLOW VS TIME
 TEST NO. RLBL-936-224

TEST DATE 06-08-84 1357 HOURS AVERAGED DATA



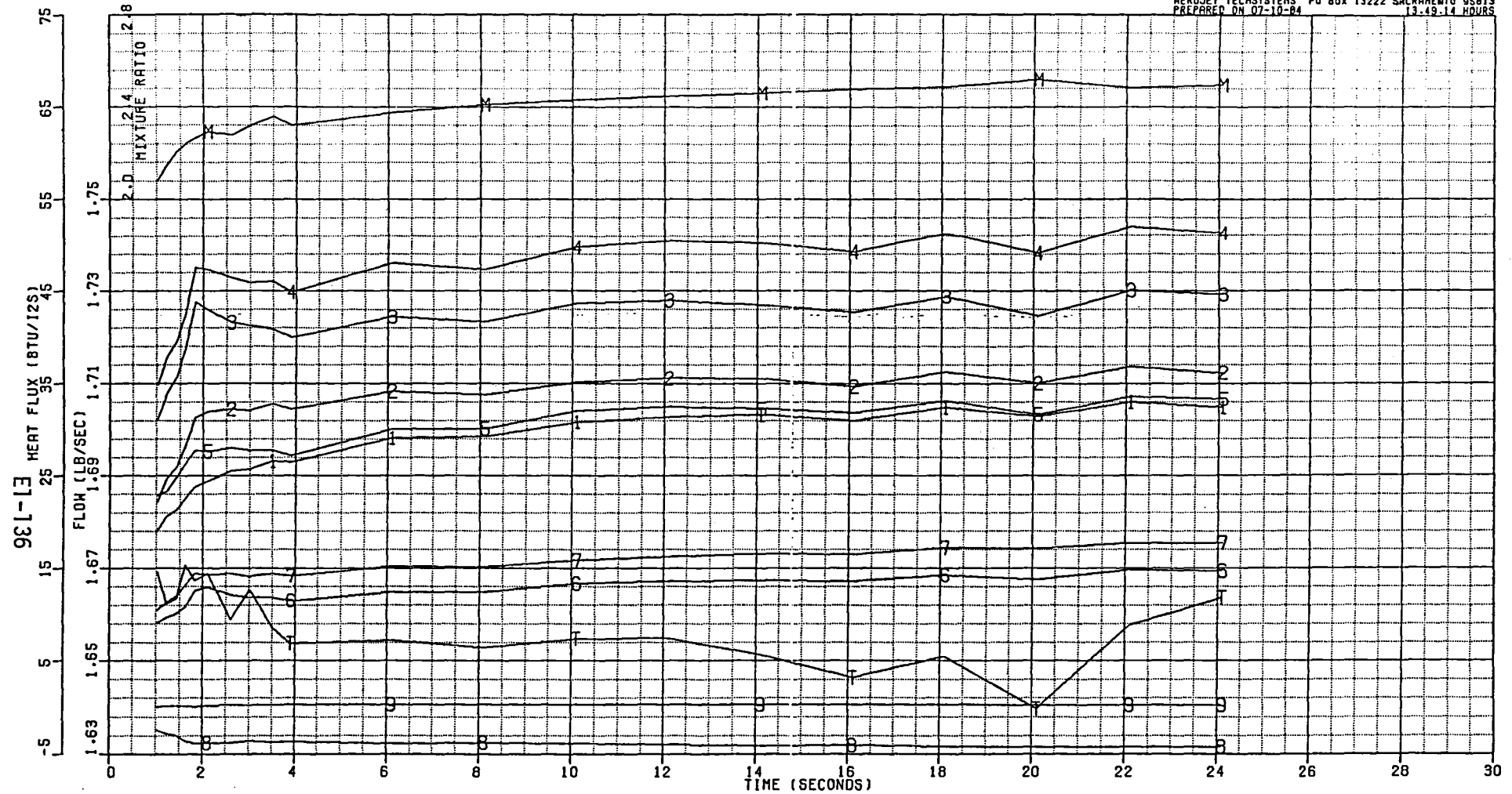
- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ
- 4 KWFJ
- 5 CSTRMC FT/SEC

INJECTOR CALCULATIONS VS TIME
TEST NO. RLBL-936-224
TEST DATE 06-08-84 1357 HOURS AVERAGED DATA



1 Q/AN1-2 BTU/12S M MR
 2 Q/AN1-3 BTU/12S
 3 Q/AN2-1 BTU/12S
 4 Q/AN2-2--3 BTU/12S
 6 Q/AN3 BTU/12S
 9 Q/AN4 BTU/12S
 0 Q/AN5 BTU/12S
 T WTOT LBS/SEC

HEAT FLUX (Q/A) VS TIME NOZZLE DATA
 TEST NO. RLBL-936-224
 TEST DATE 06-08-84 1357 HOURS AVERAGED DATA

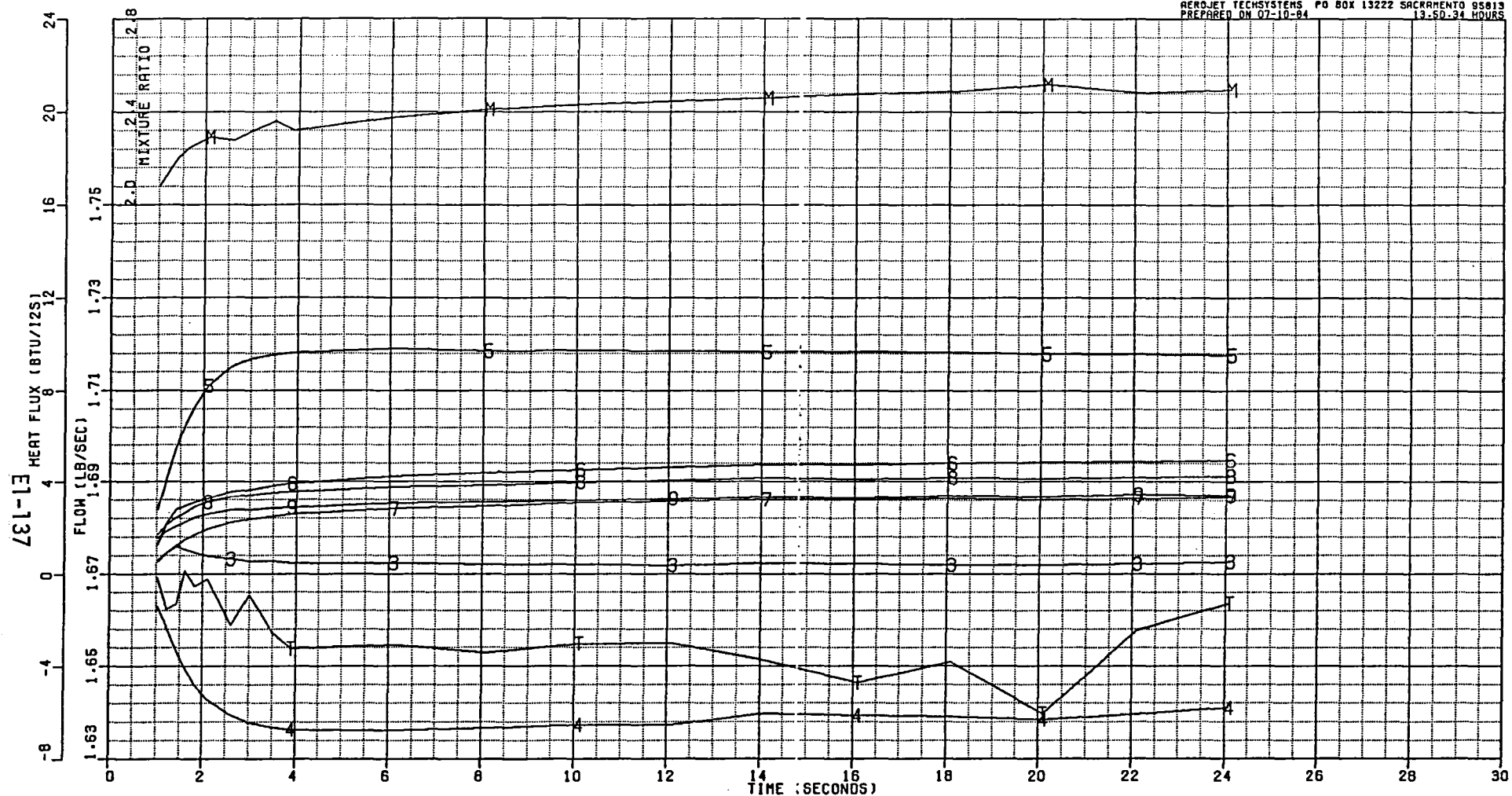


1 Q/AN6	BTU/12S	9 Q/AN12-3	BTU/12S
2 Q/AN7	BTU/12S	T WTOT	LBS/SEC
3 Q/AN8	BTU/12S	M MR	
4 Q/AN9	BTU/12S		
5 Q/AN10	BTU/12S		
6 Q/AN11	BTU/12S		
7 Q/AN12-1	BTU/12S		
8 Q/AN12-2	BTU/12S		

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-224

NOZZLE DATA

TEST DATE 06-08-84 1357 HOURS AVERAGED DATA

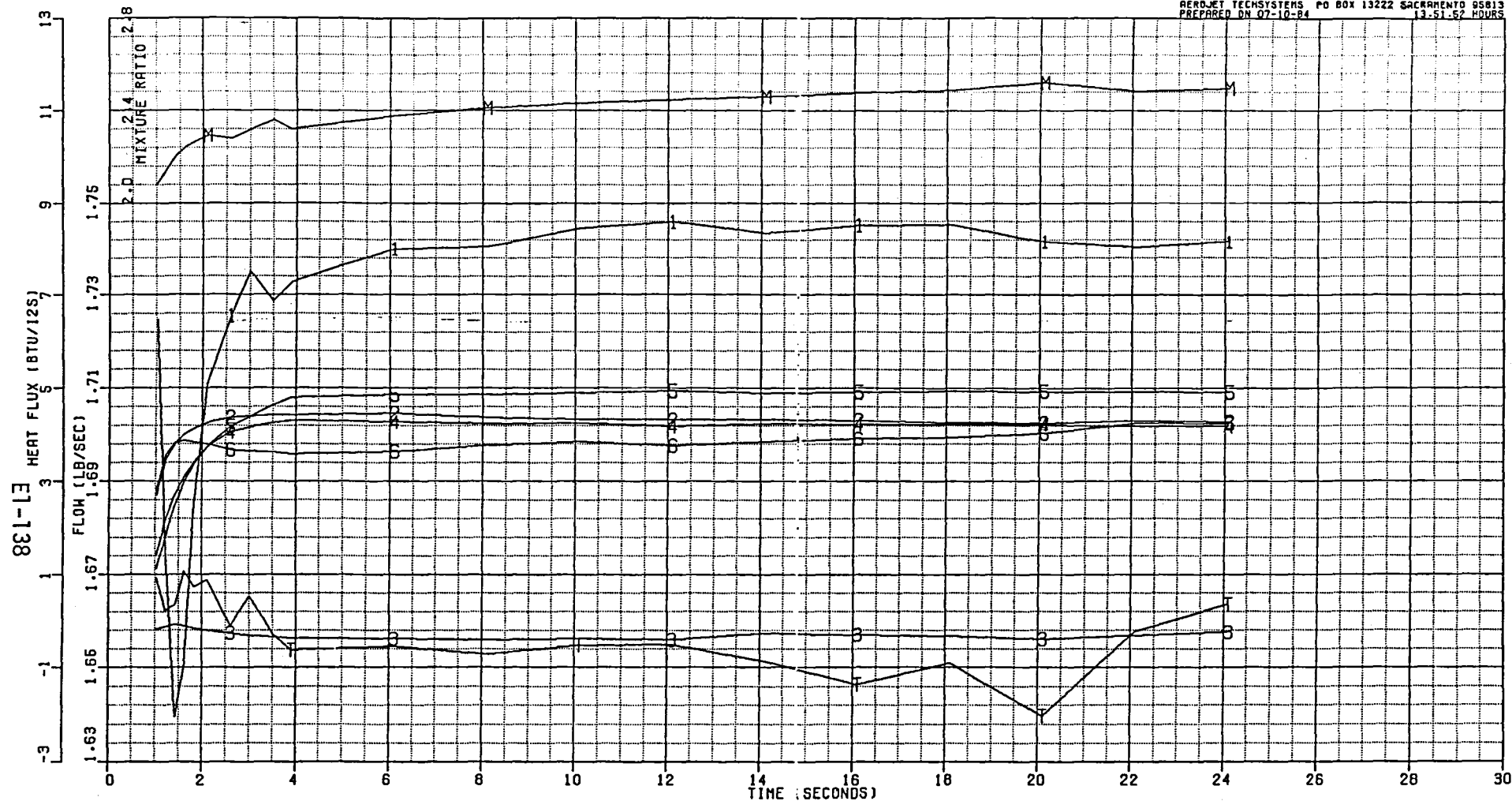


3 Q/RBB1-1 BTU/12S M MR
 4 Q/RBB2 BTU/12S
 5 Q/RBB1-2 BTU/12S
 6 Q/RBB4-1 BTU/12S
 7 Q/RBB4-2.3 BTU/12S
 8 Q/RN1-1 BTU/12S
 9 Q/RN1-2 BTU/12S
 T WTOT LBS/SEC

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-224

BARREL DATA

TEST DATE 06-08-84 1357 HOURS AVERAGED DATA

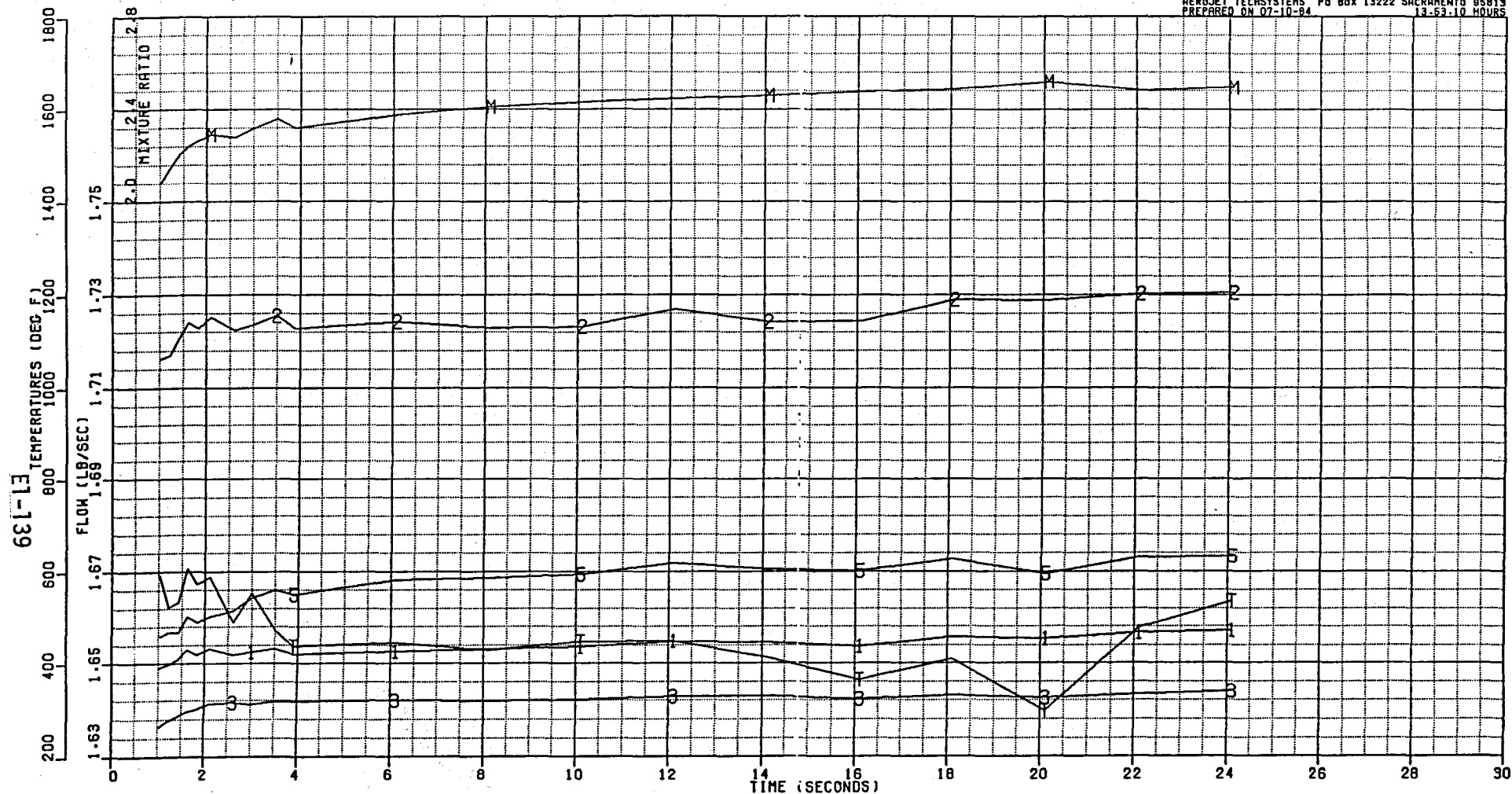


1 Q/ATRM C BTU/12S
 2 Q/A12B6-1 BTU/12S
 3 Q/A12B6-2.5 BTU/12S
 4 Q/A12B3.4 BTU/12S
 5 Q/A12B1-2.2 BTU/12S
 6 Q/A12B1-1 BTU/12S
 T WTOT LBS/SEC
 M MR

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-224

MISC. DATA

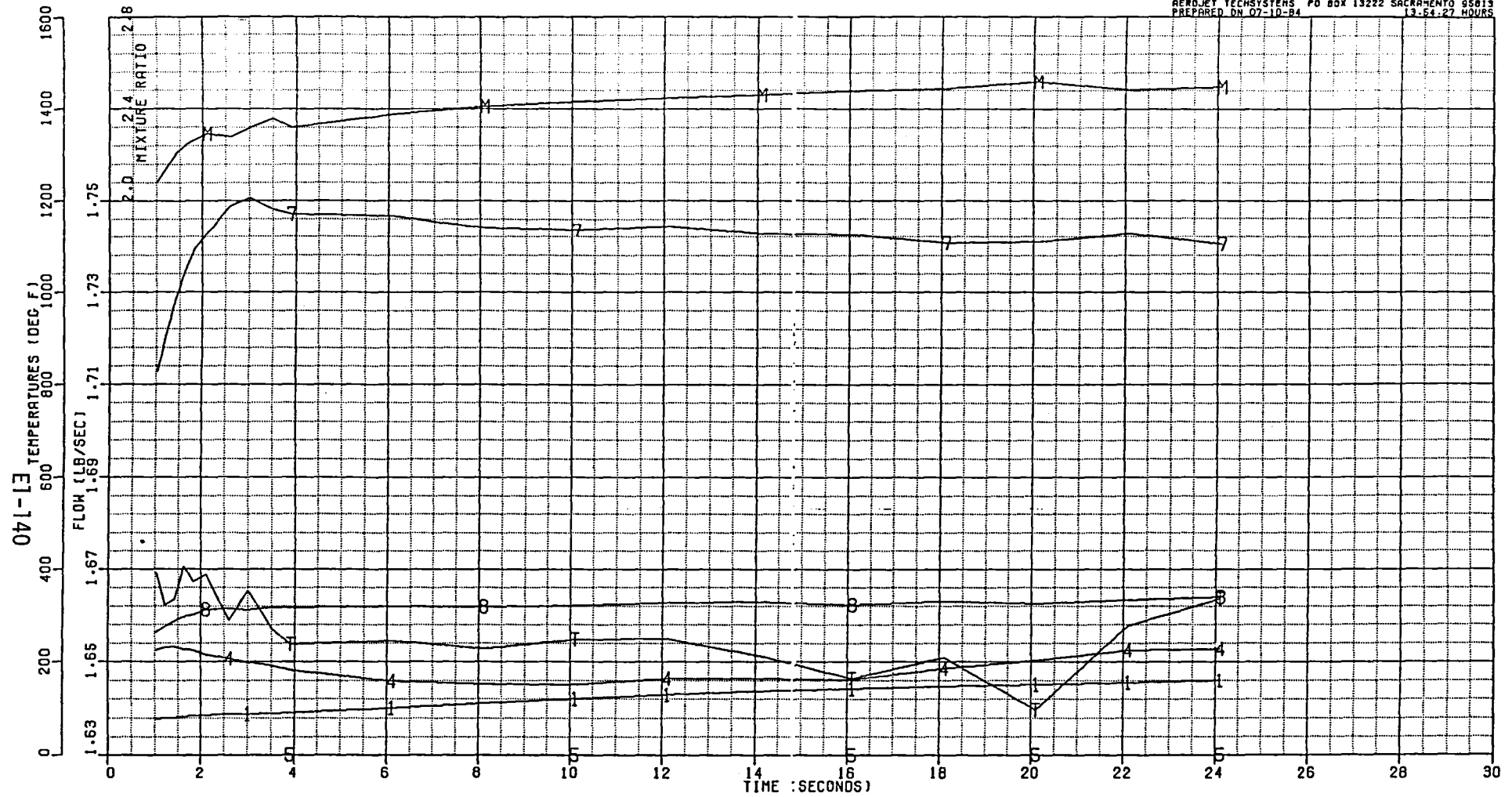
TEST DATE 06-08-84 1357 HOURS AVERAGED DATA



1 TC-1 DEG F
 2 TC-2 DEG F
 3 TC-3 DEG F
 5 TC-5 DEG F
 T WTOT LBS/SEC
 M MR

GAS SIDE WALL TEMPERATURE VS TIME NOZZLE
 TEST NO. RLBL-936-224

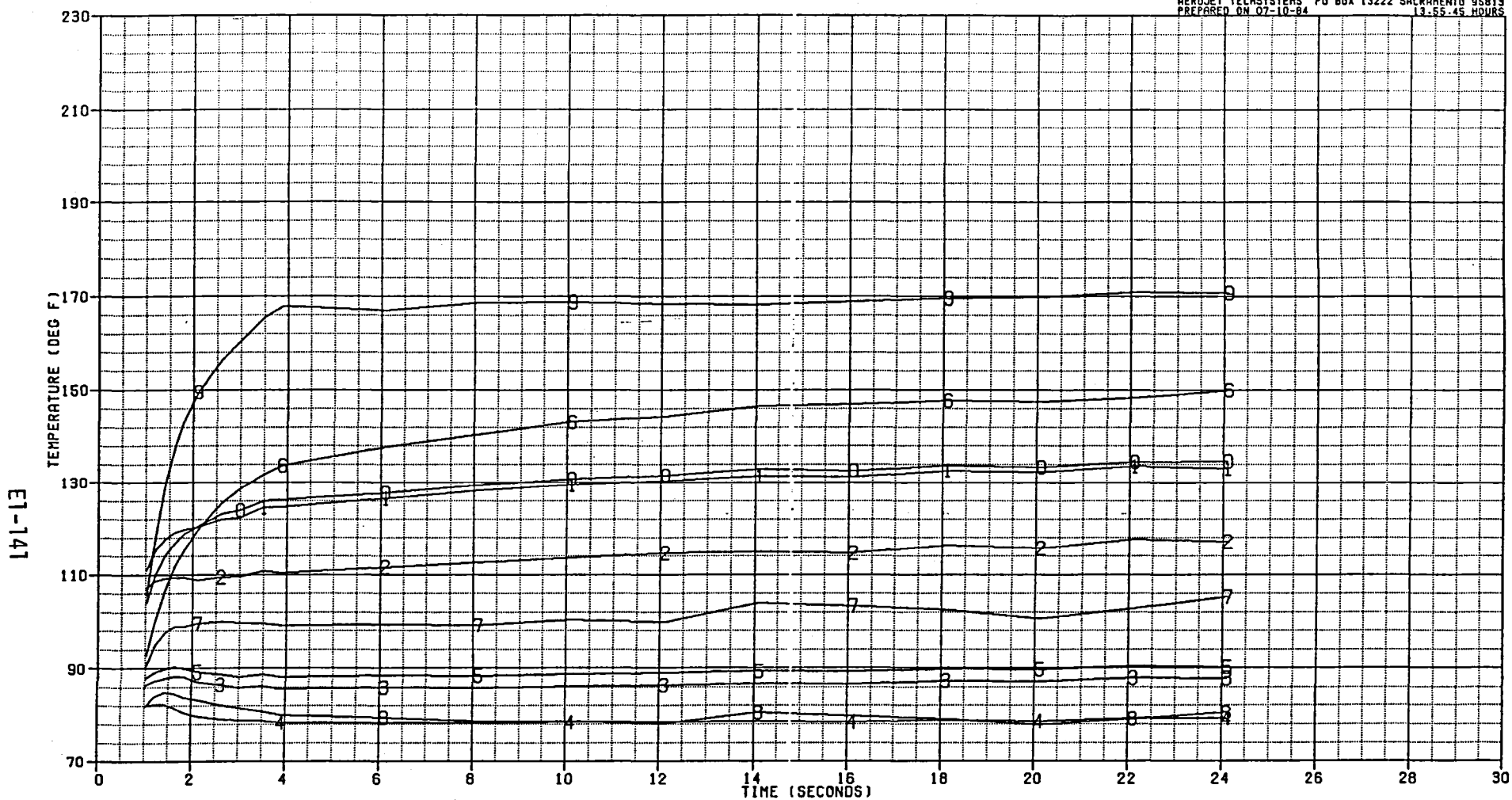
TEST DATE 06-08-84 1357 HOURS AVERAGED DATA



1 TC-7 DEG F
 4 TC-10 DEG F
 5 TC-12 DEG F
 7 TC-13 DEG F
 8 TC-3 DEG F
 T WTOT LBS/SEC
 M MR

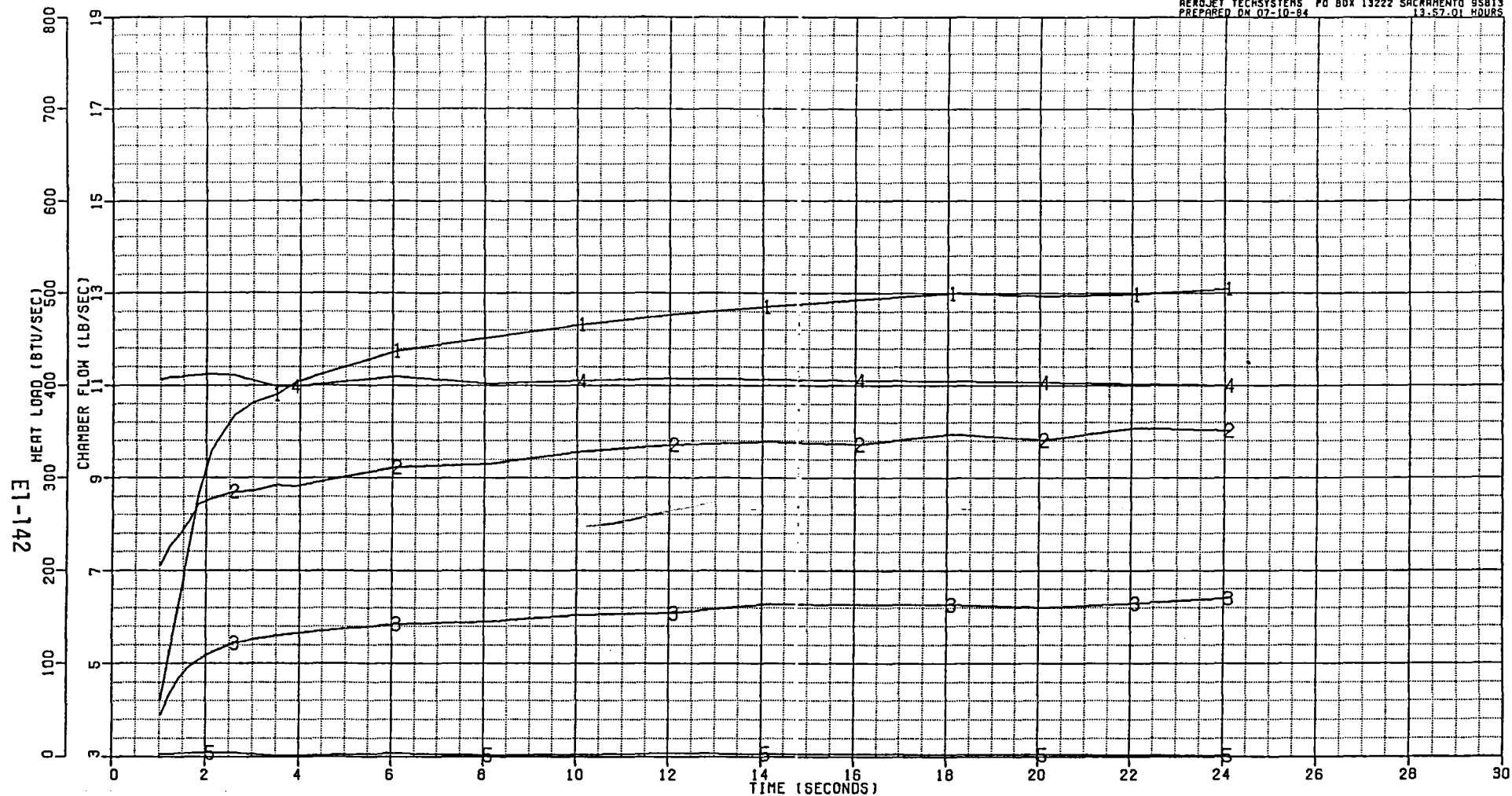
GAS SIDE WALL TEMPERATURE VS TIME BARREL
 TEST NO. RLBL-936-224

TEST DATE 06-08-84 1357 HOURS AVERAGED DATA



COOLANT OUTLET TEMPERATURE VS TIME NO 1
 TEST NO. RLBL-936-224

TEST DATE 06-08-84 1357 HOURS AVERAGED DATA

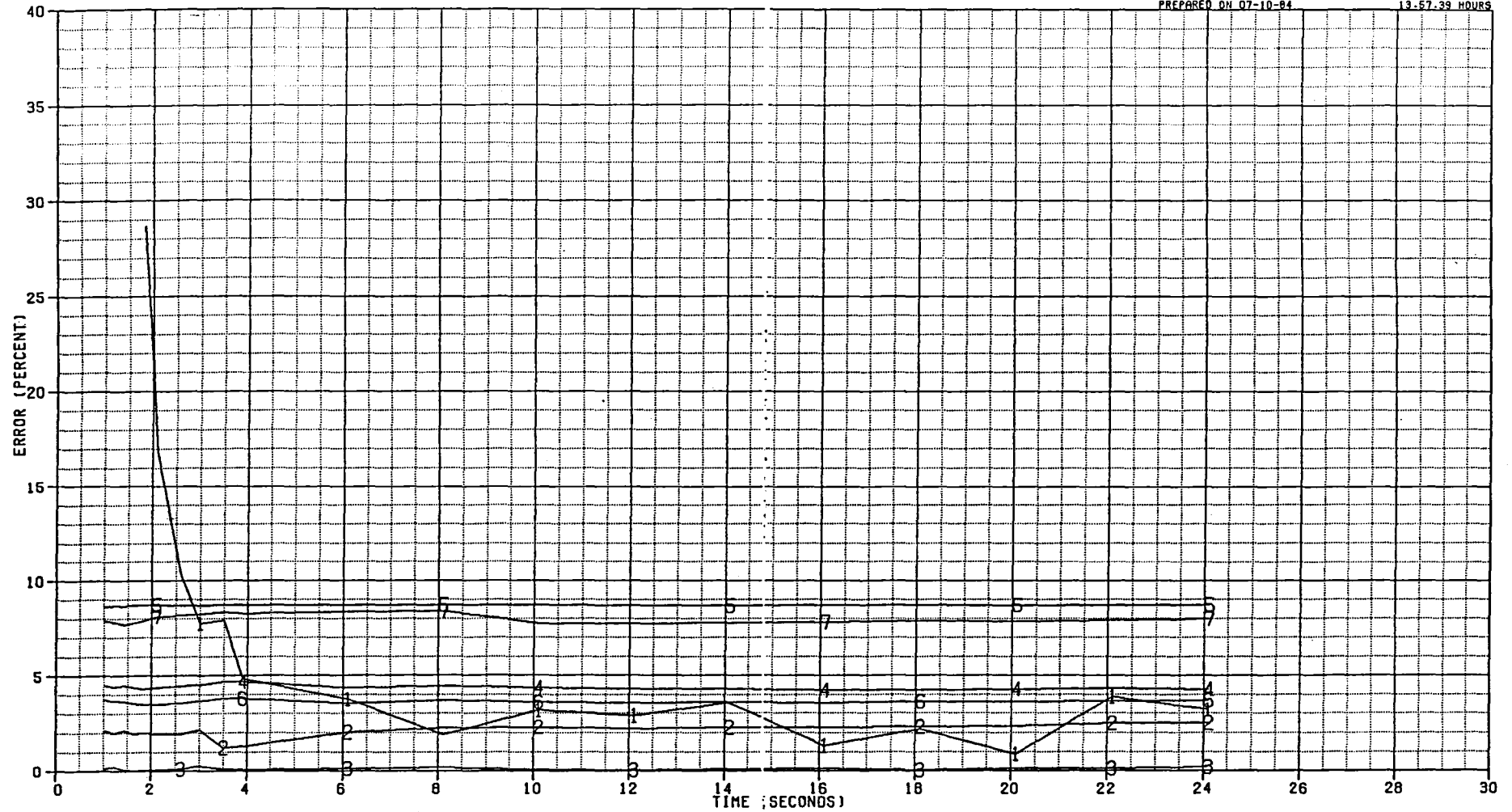


1 QH BTU/SEC
 2 QNT BTU/SEC
 3 QBBT BTU/SEC
 4 HW1 LBS/SEC
 5 HW2 LBS/SEC

CHAMBER FLOW AND HEAT LOAD VS TIME
 TEST NO. RLBL-936-224

TEST DATE 06-08-84 1357 HOURS AVERAGED DATA

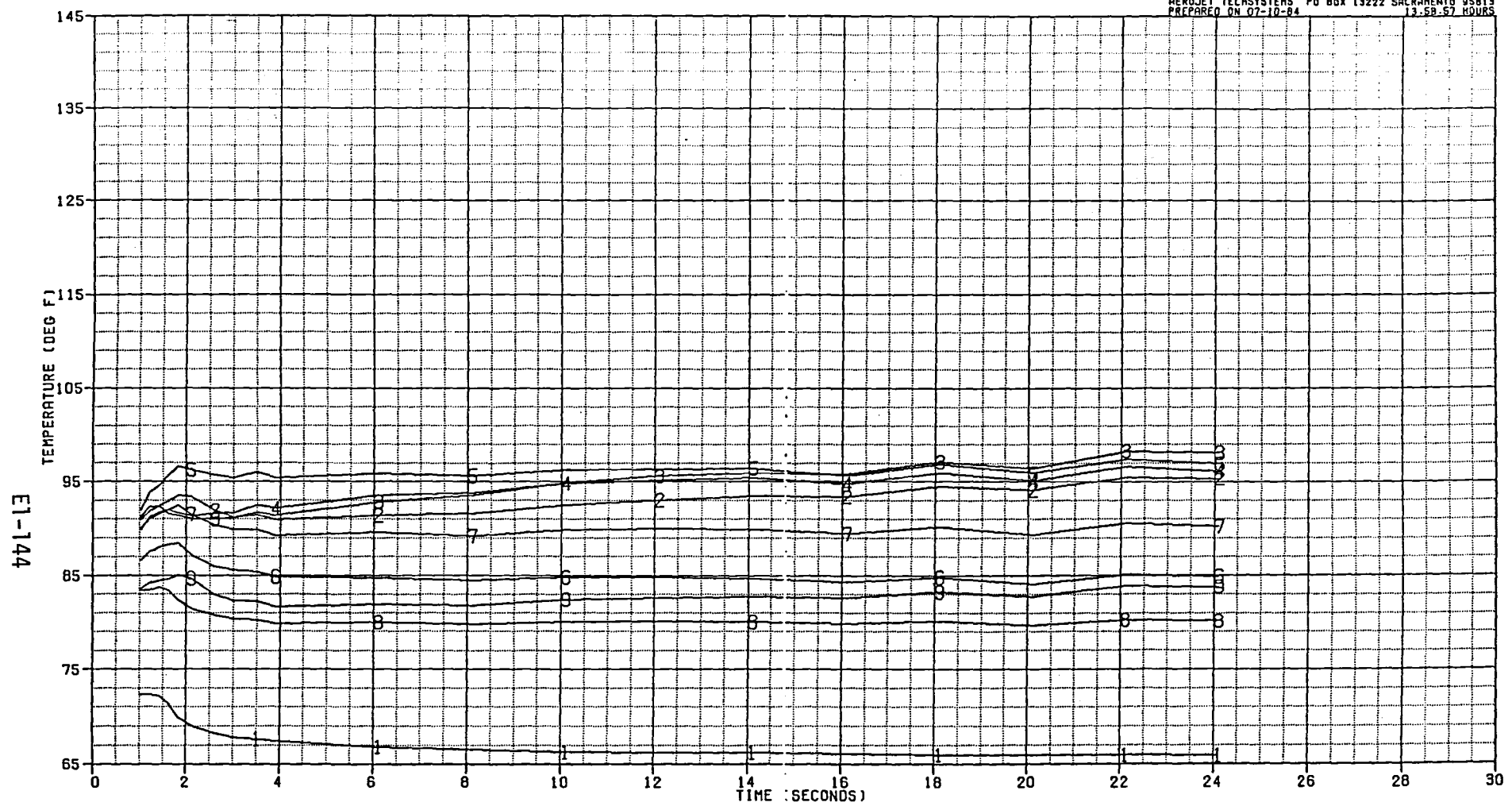
E1-143



1 QERM PERCENT
 2 WERNT PERCENT
 3 WER8BT PERCENT
 4 WER12B1 PERCENT
 5 WER12B3 PERCENT
 6 WER12B5 PERCENT
 7 WERN10 PERCENT

CHAMBER FLOW + HEAT LOAD ERRORS VS TIME
 TEST NO. RLBL-936-224

TEST DATE 06-08-84 1357 HOURS AVERAGED DATA



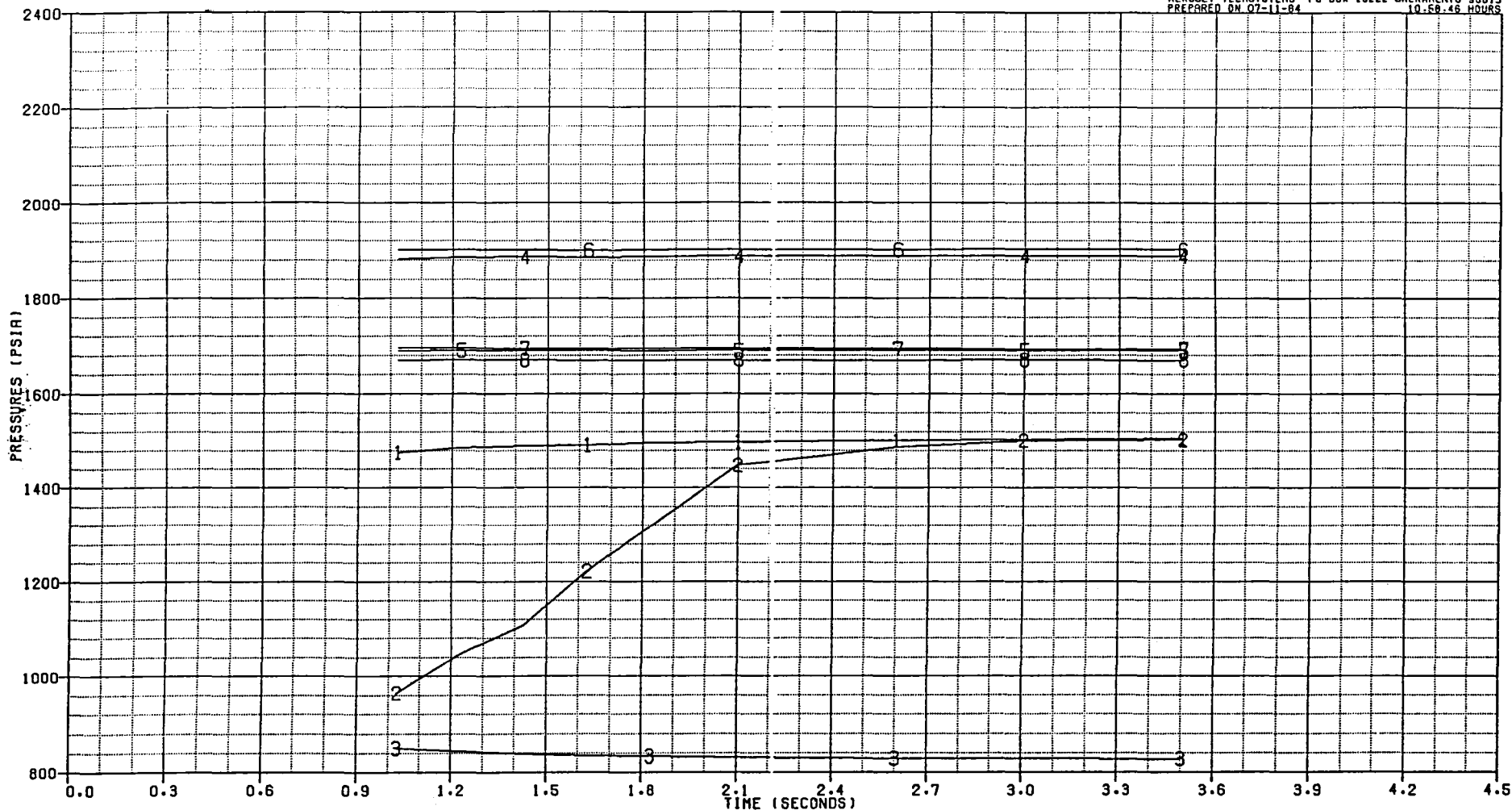
E1-144

- | | | | |
|----------|-------|----------|-------|
| 1 TWC-1 | DEG F | 9 TWC-20 | DEG F |
| 2 TWC-13 | DEG F | | |
| 3 TWC-14 | DEG F | | |
| 4 TWC-15 | DEG F | | |
| 5 TWC-16 | DEG F | | |
| 6 TWC-17 | DEG F | | |
| 7 TWC-18 | DEG F | | |
| 8 TWC-19 | DEG F | | |

COOLANT OUTLET TEMPERATURE VS TIME NO 2 TEST NO. RLBL-936-224

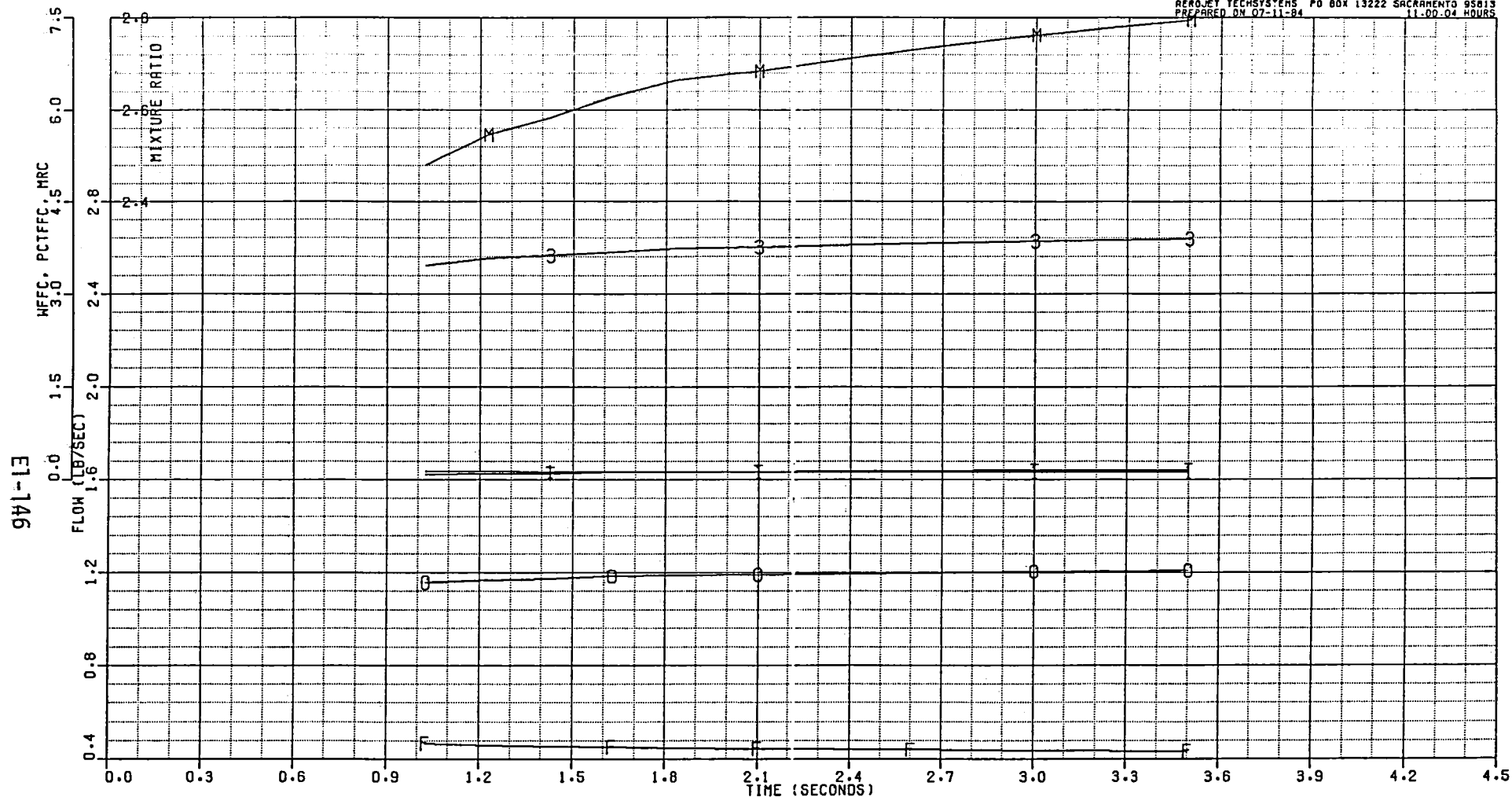
TEST DATE 06-08-84 1357 HOURS AVERAGED DATA

E1-145



INJECTOR PRESSURES VS TIME TEST NO. RLBL-936-225

- TEST DATE 06-08-84 1454 HOURS AVERAGED DATA

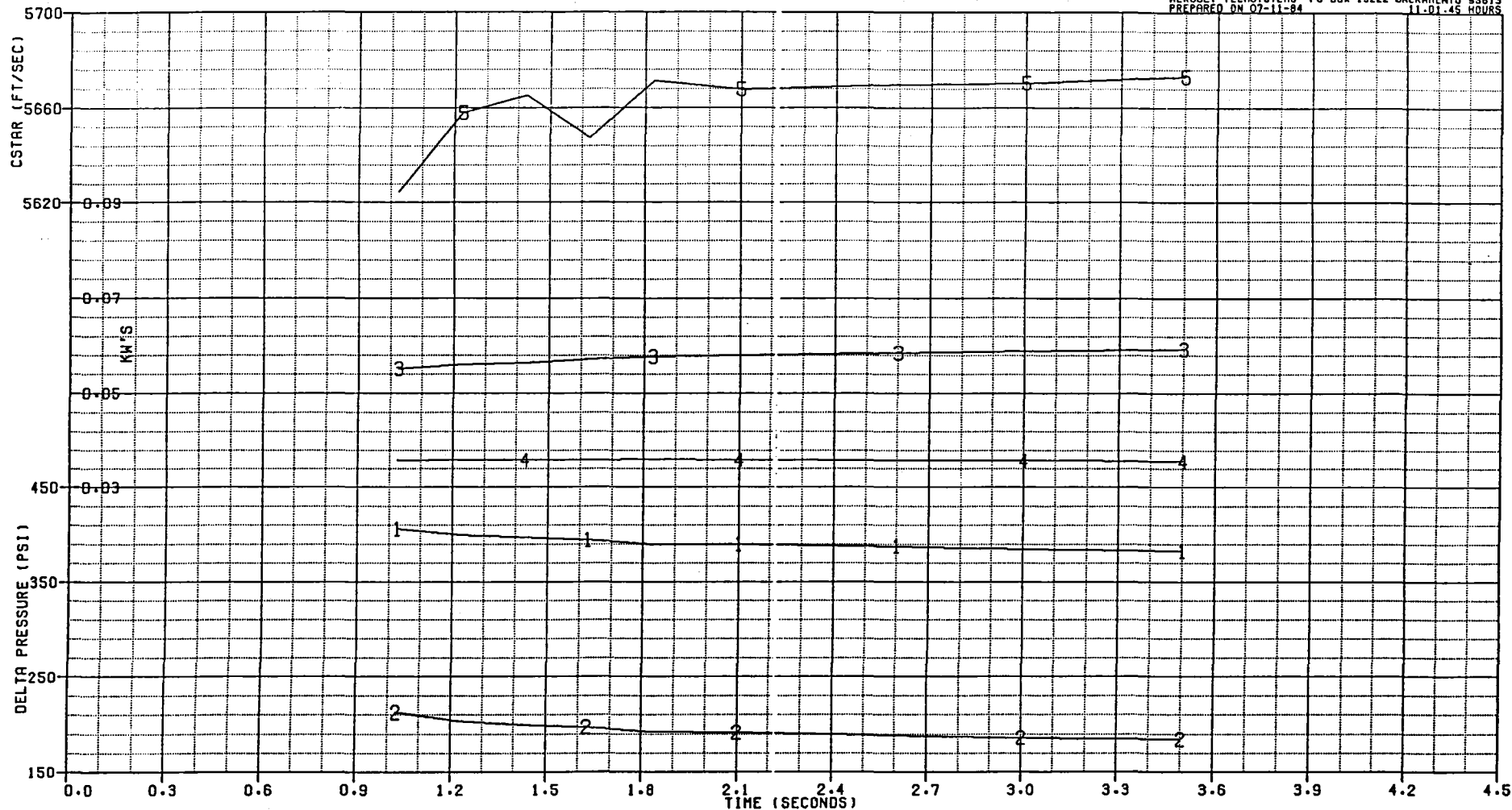


F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR
 1 WFFC LBS/SEC
 2 PCTFFC PERCENT
 3 MRC

INJECTOR FLOW VS TIME
 TEST NO. RLBL-936-225

TEST DATE 06-08-84 1454 HOURS AVERAGED DATA

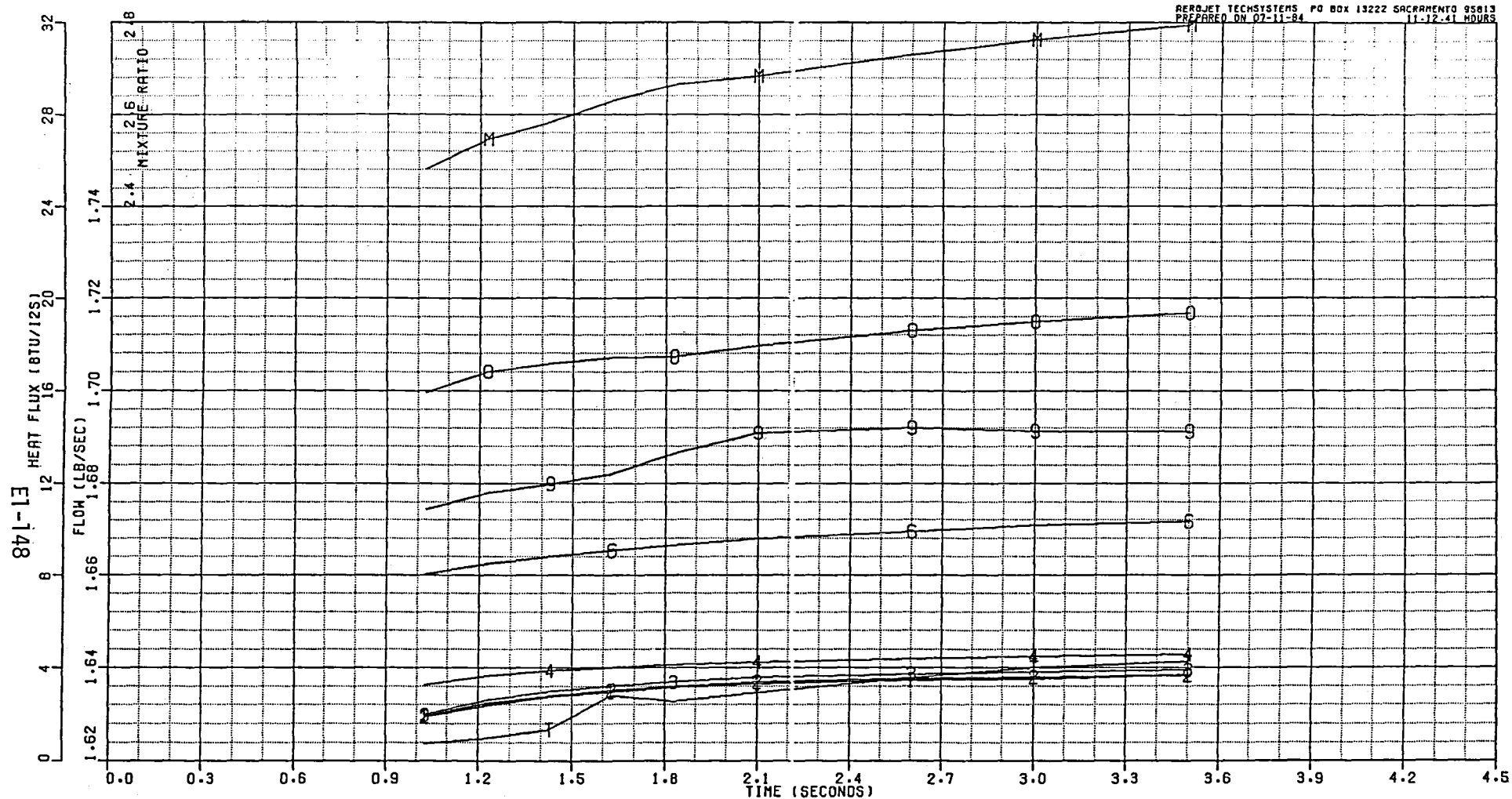
ET-147



1 DPQJ PSI
 2 DPFJ PSI
 3 KWOJ
 4 KWFJ
 5 CSTRMC FT/SEC

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLBL-936-225

TEST DATE 06-08-84 1454 HOURS AVERAGED DATA

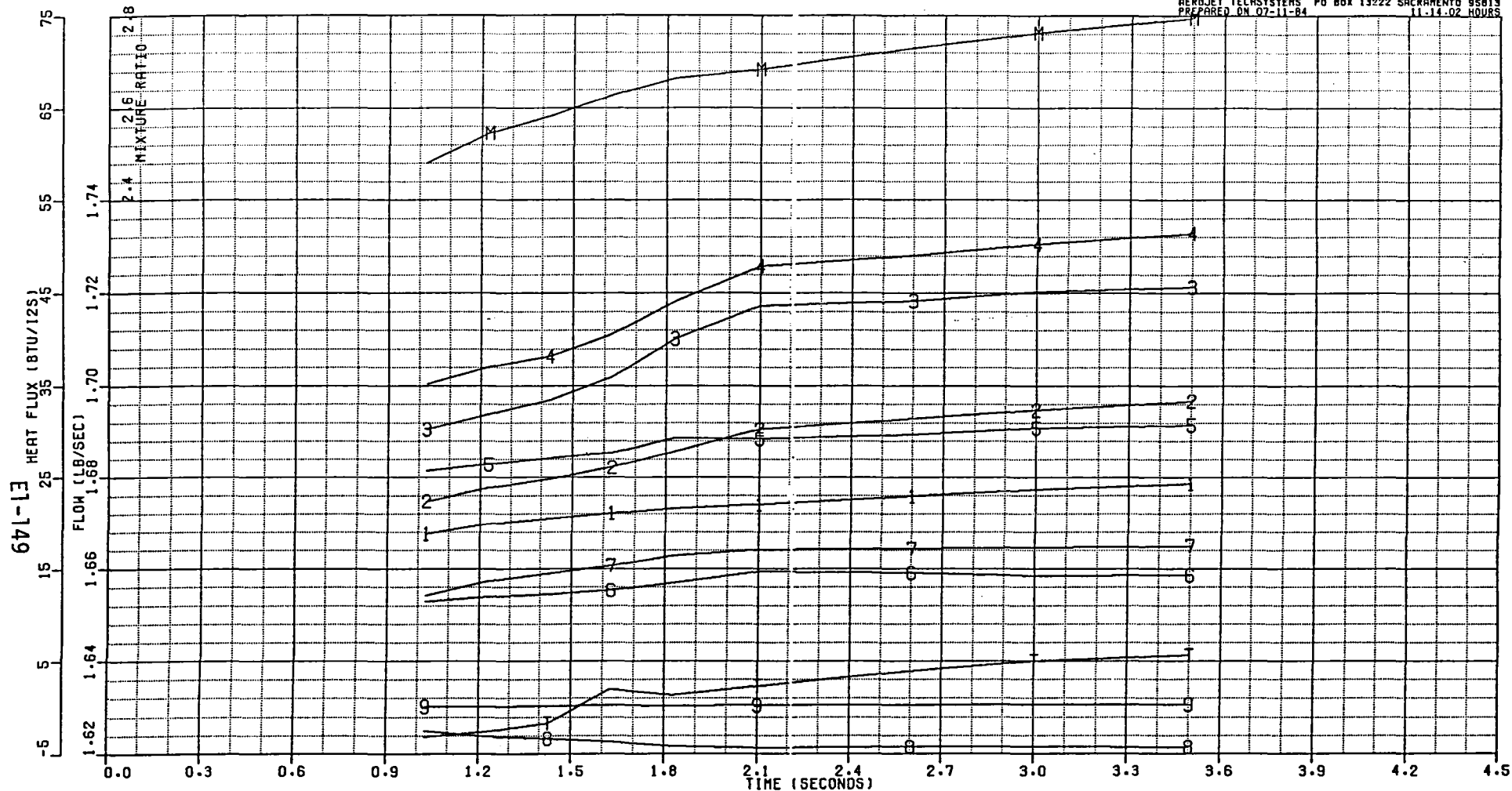


1 Q/AN1-2 BTU/12S M MR
 2 Q/AN1-3 BTU/12S
 3 Q/AN2-1 BTU/12S
 4 Q/AN2-2.-3 BTU/12S
 6 Q/AN3 BTU/12S
 9 Q/AN4 BTU/12S
 0 Q/AN5 BTU/12S
 T WTOT LBS/SEC

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-225

NOZZLE DATA

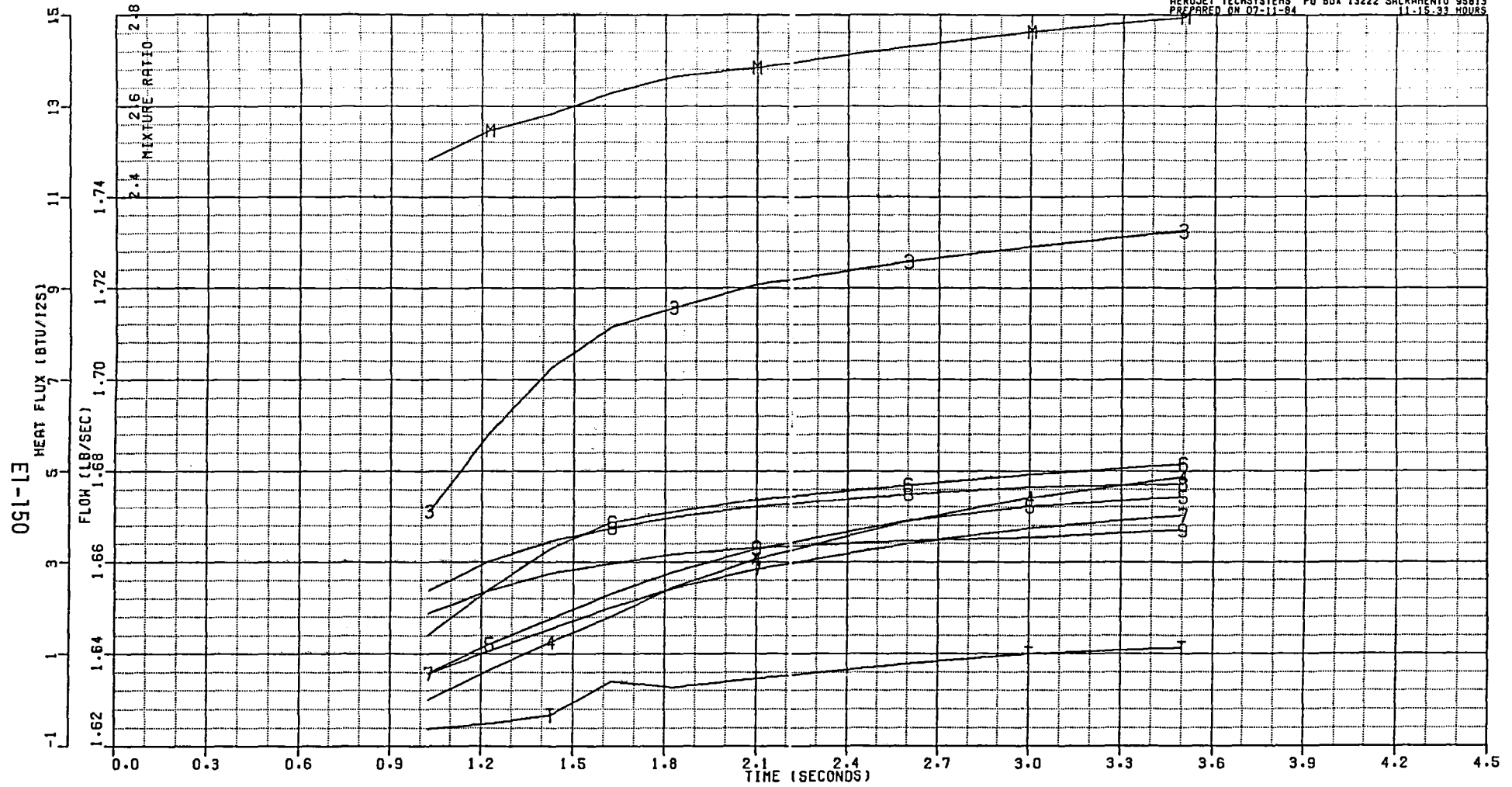
TEST DATE 06-08-84 1454 HOURS AVERAGED DATA



HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-225

NOZZLE DATA

TEST DATE 06-08-84 1454 HOURS AVERAGED DATA

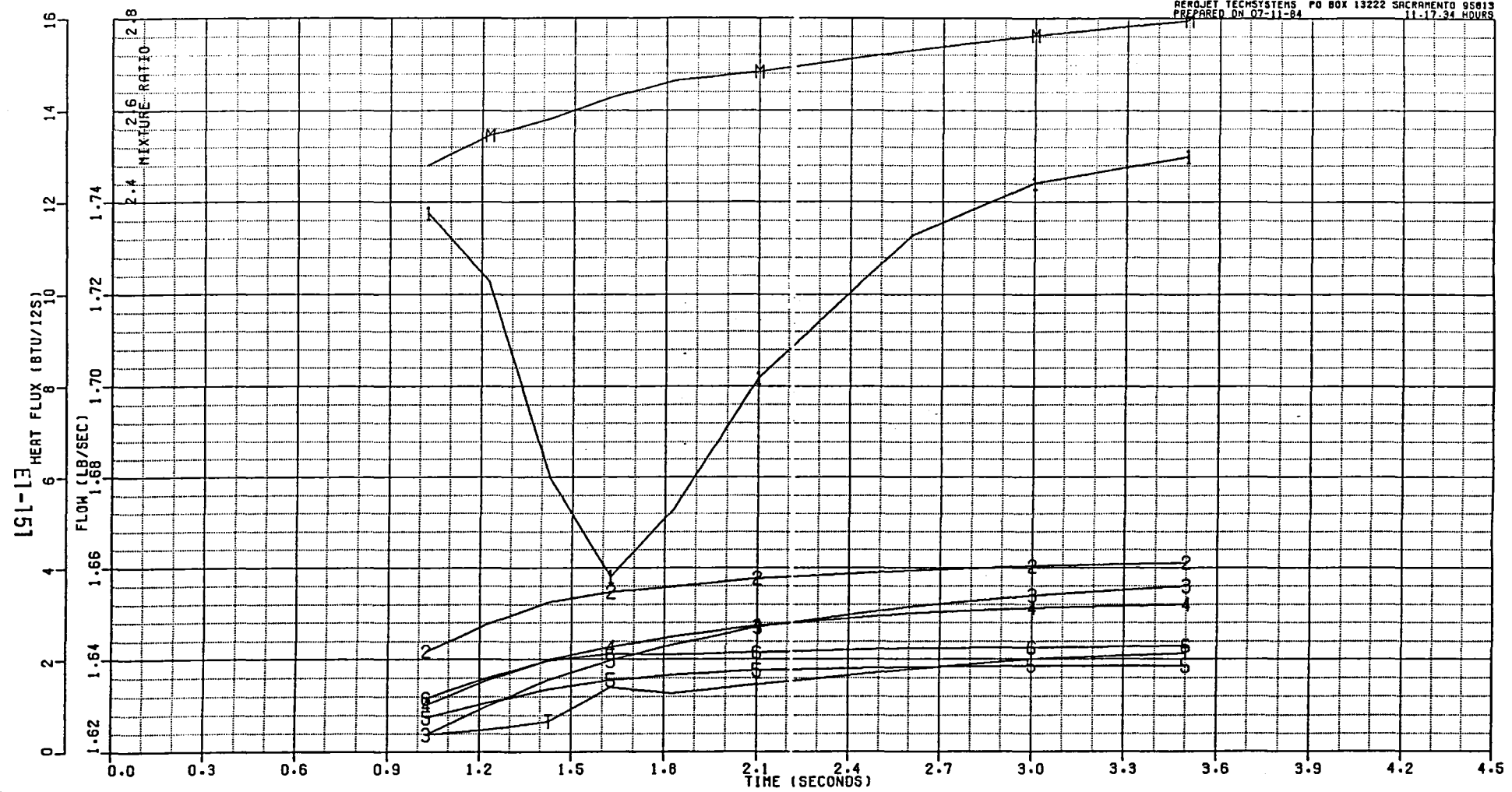


3 Q/A8B1-1 BTU/125 M MR
 4 Q/A8B2 BTU/125
 5 Q/A8B1-2 BTU/125
 6 Q/A8B4-1 BTU/125
 7 Q/A8B4-2.3 BTU/125
 8 Q/AN1-1 BTU/125
 9 Q/AN1-2 BTU/125
 T WTOT LBS/SEC

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-225

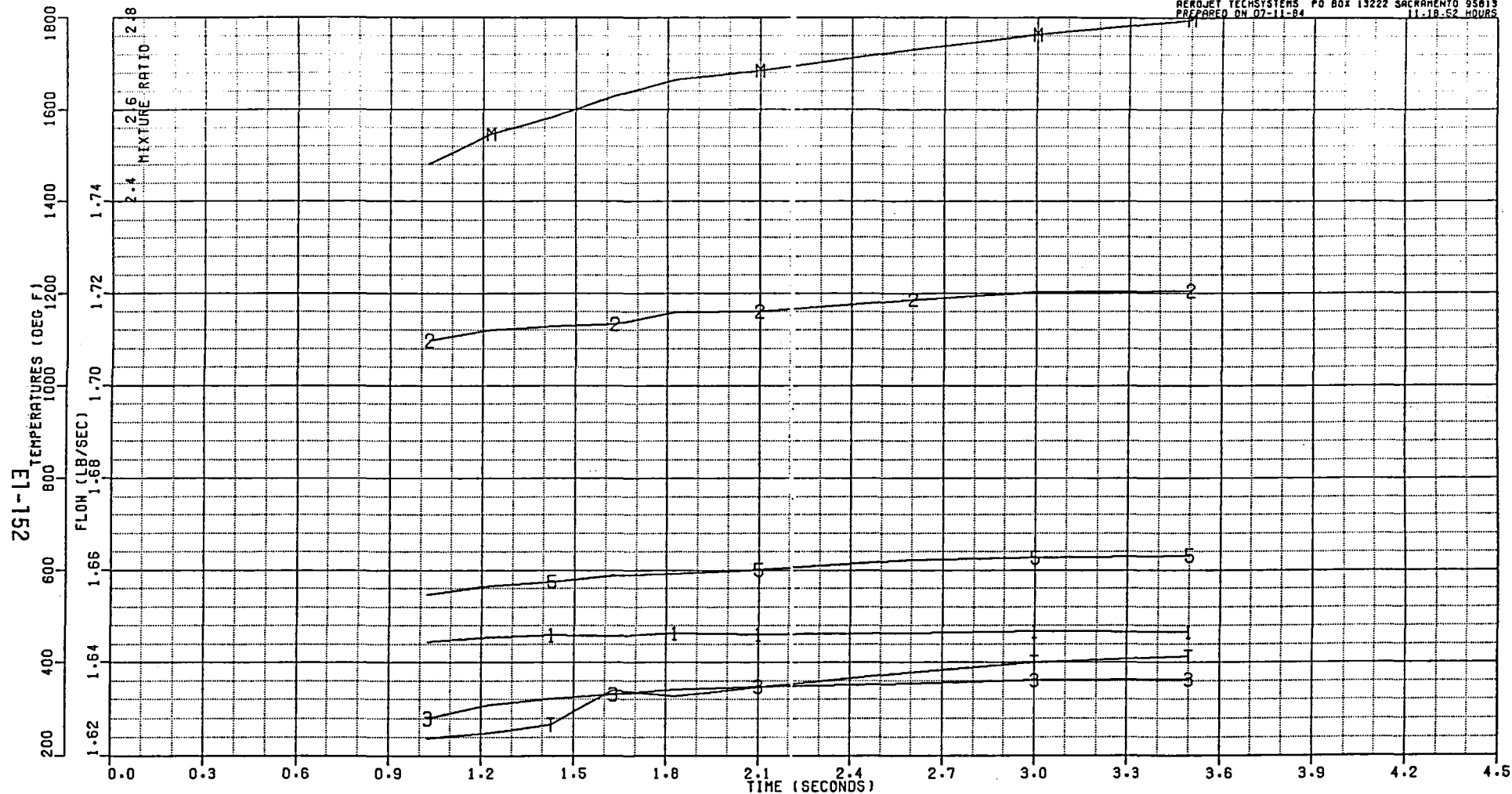
BARREL DATA

TEST DATE 06-08-84 1454 HOURS AVERAGED DATA



- 1 Q/ATRC BTU/12S
- 2 Q/A1286-1 BTU/12S
- 3 Q/A1286-2.5 BTU/12S
- 4 Q/A1283.4 BTU/12S
- 5 Q/A1281-2.2 BTU/12S
- 6 Q/A1281-1 BTU/12S
- T WTOT LBS/SEC
- M MR

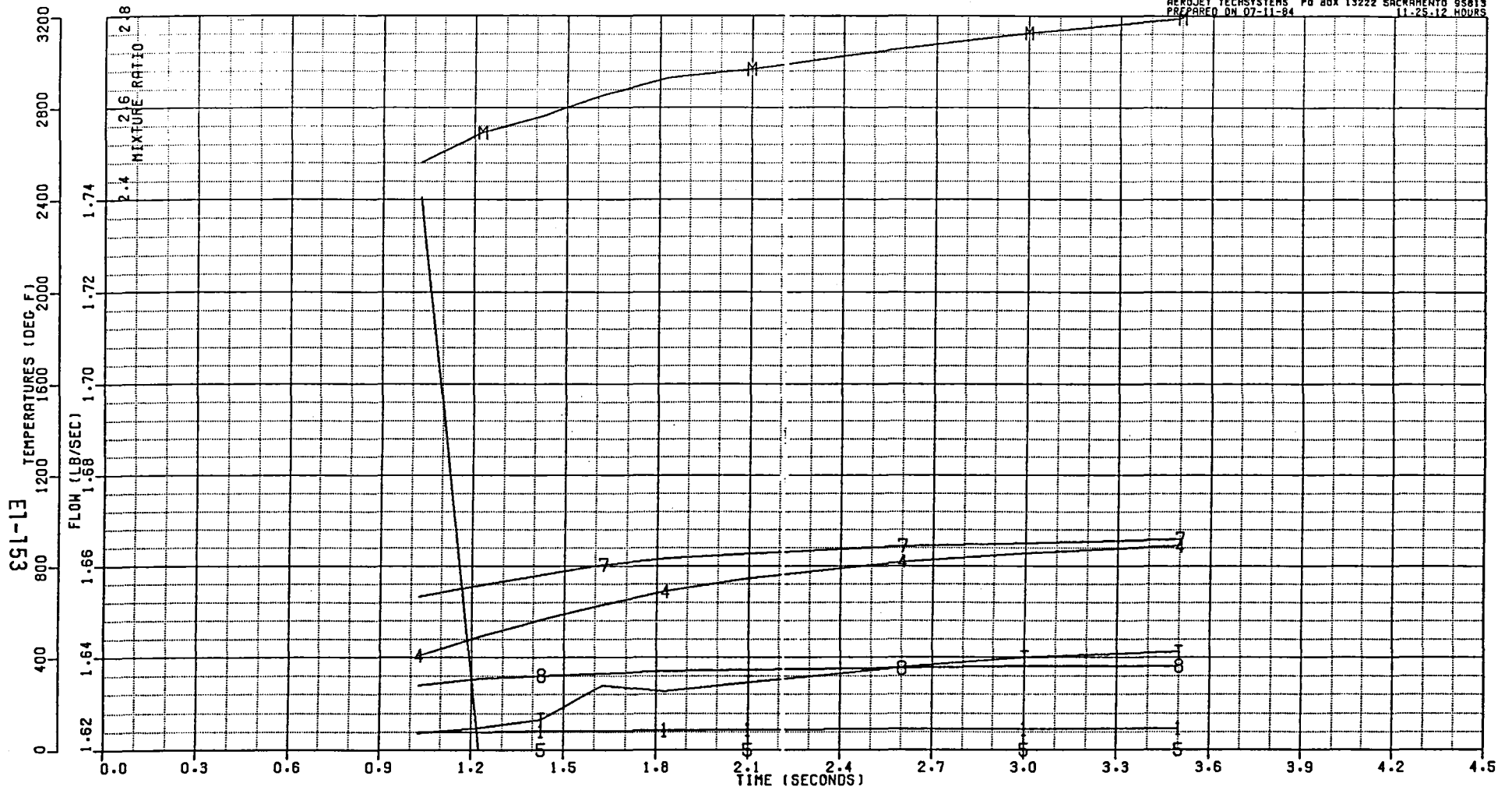
HEAT FLUX (Q/A) VS TIME MISC. DATA
 TEST NO. RLBL-936-225
 TEST DATE 06-08-84 1454 HOURS AVERAGED DATA



1 TC-1 DEG F
 2 TC-2 DEG F
 3 TC-3 DEG F
 5 TC-5 DEG F
 T WTOT LBS/SEC
 M MR

GAS SIDE WALL TEMPERATURE VS TIME NOZZLE
 TEST NO. RLBL-936-225

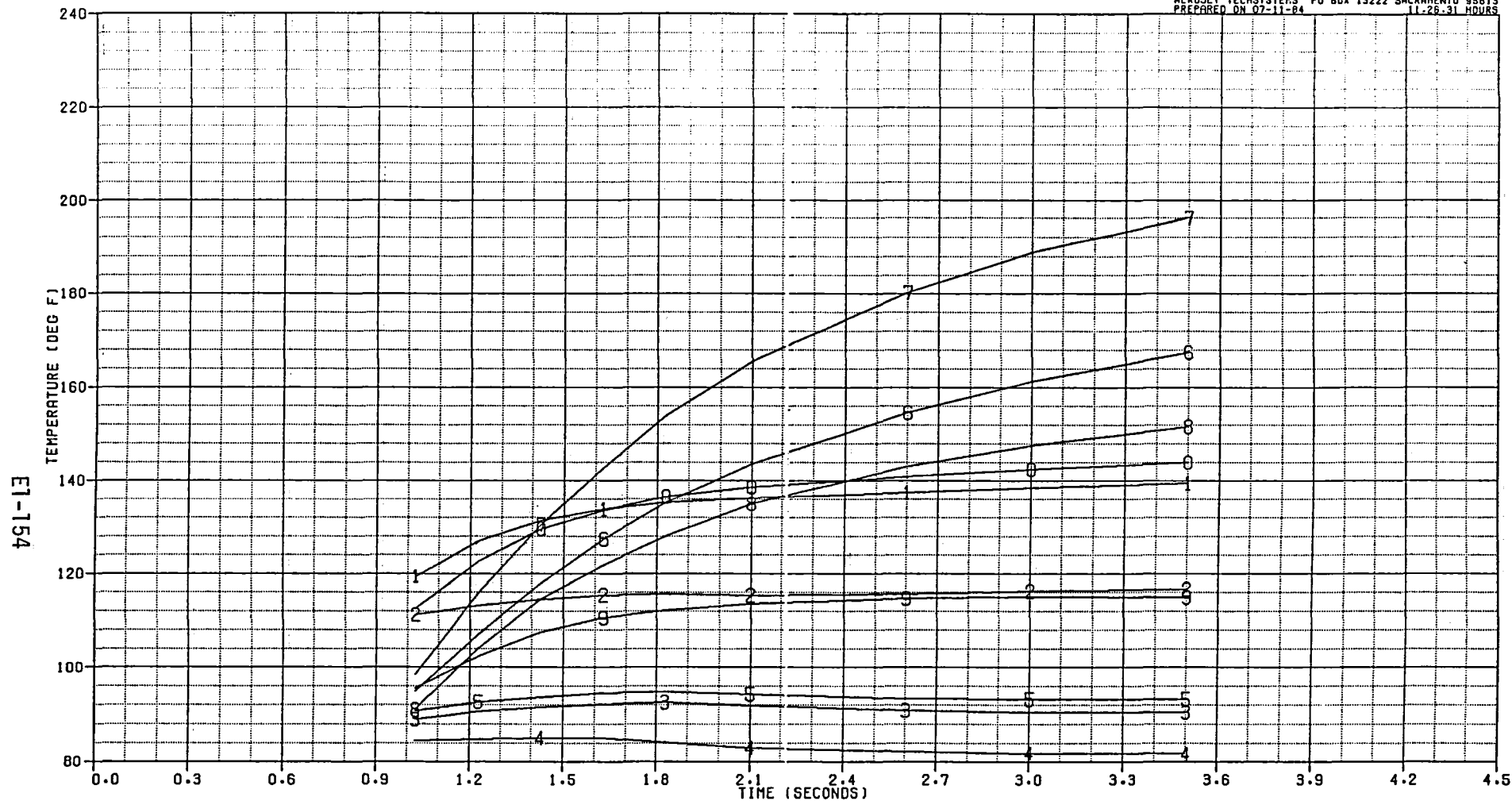
TEST DATE 06-08-84 1454 HOURS AVERAGED DATA



1 TC-7 DEG F
4 TC-10 DEG F
5 TC-12 DEG F
7 TC-13 DEG F
8 TC-3 DEG F
T WTOT LBS/SEC
M MR

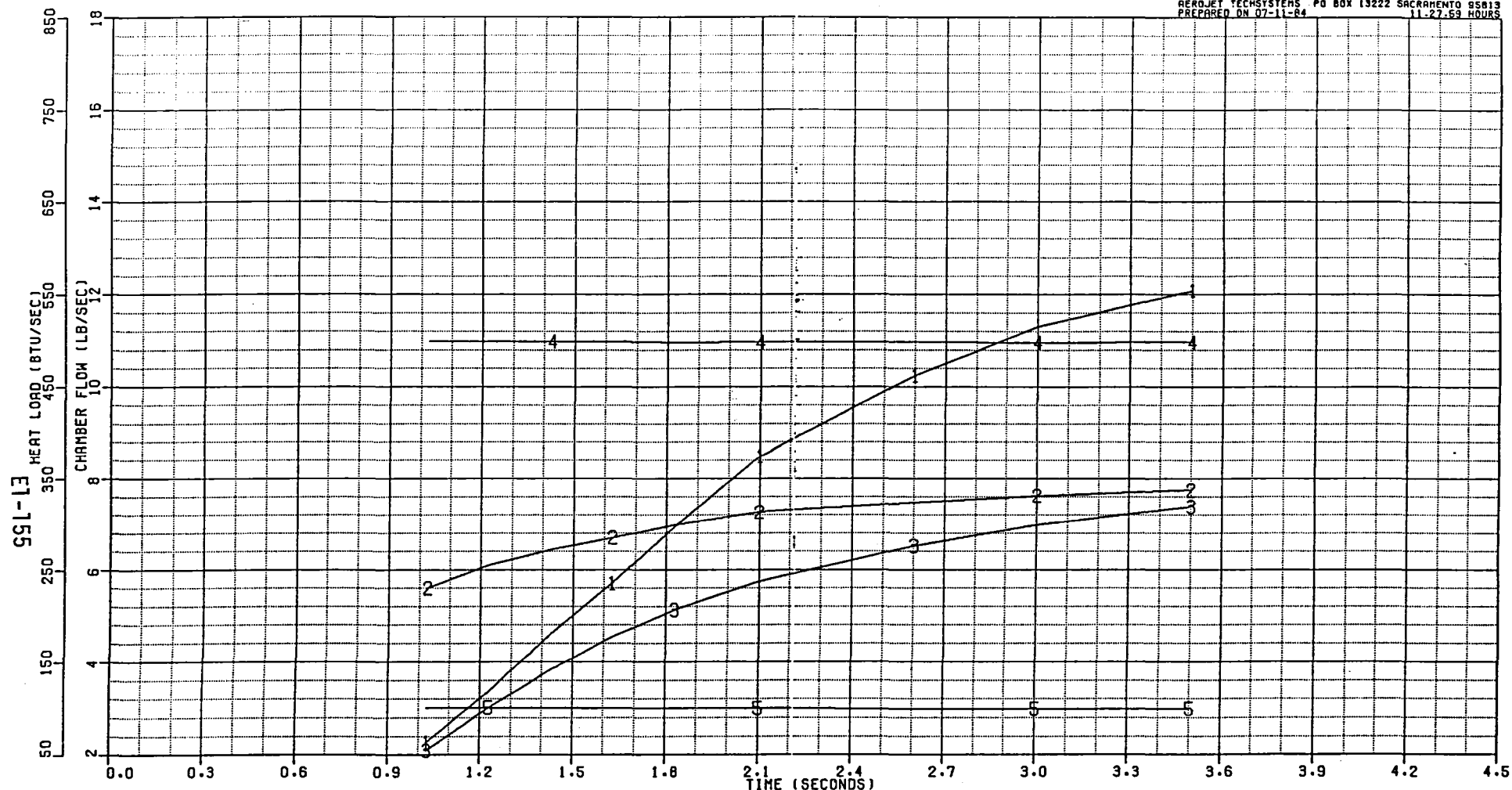
GAS SIDE WALL TEMPERATURE VS TIME BARREL
TEST NO. RLBL-936-225

TEST DATE 06-08-84 1454 HOURS AVERAGED DATA



COOLANT OUTLET TEMPERATURE VS TIME NO 1
 TEST NO. RLBL-936-225

TEST DATE 06-08-84 1454 HOURS AVERAGED DATA

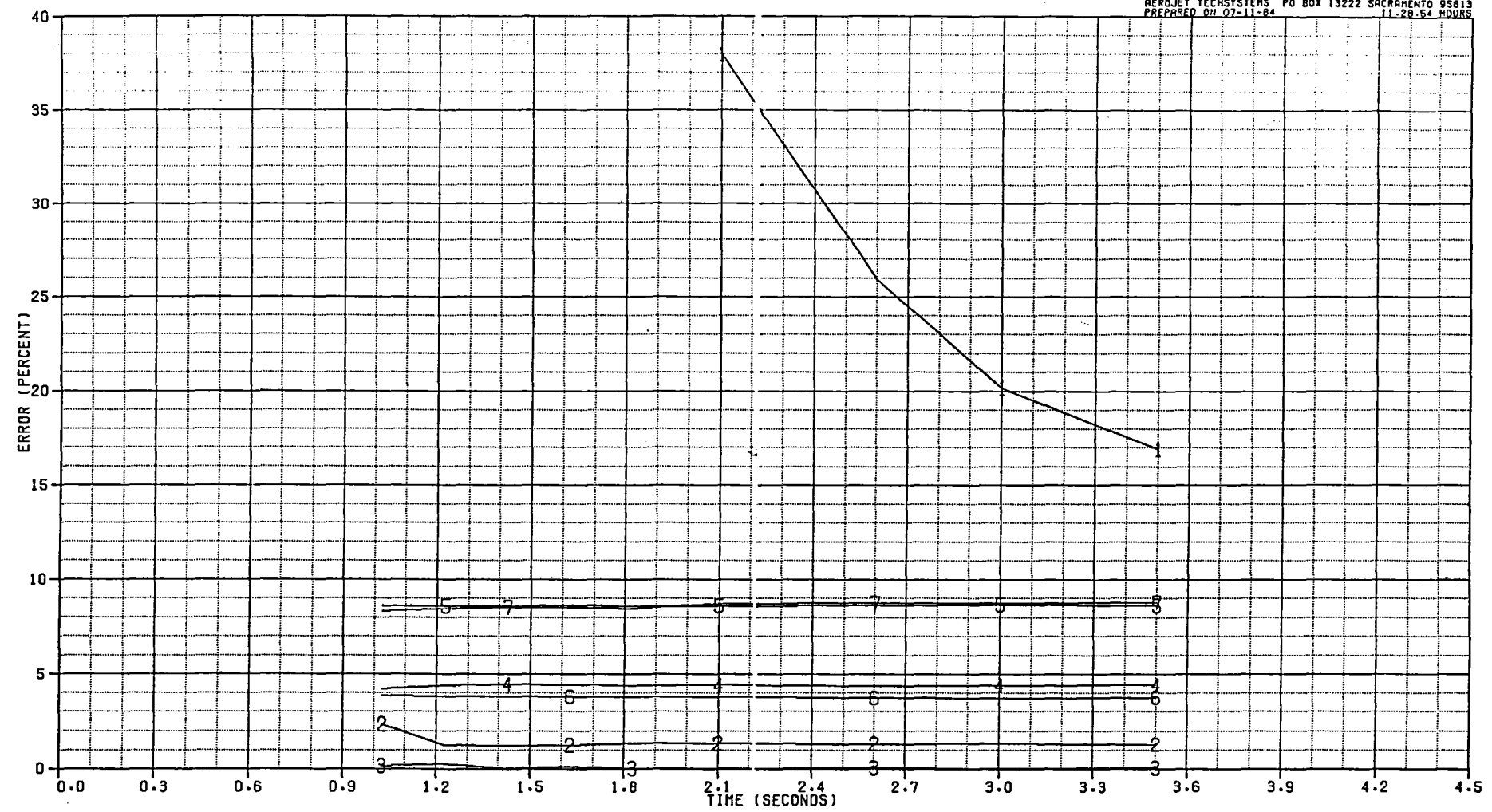


1 QM BTU/SEC
 2 QNT BTU/SEC
 3 Q8BT BTU/SEC
 4 WW1 LBS/SEC
 5 WW2 LBS/SEC

CHAMBER FLOW AND HEAT LOAD VS TIME
 TEST NO. RLBL-936-225

TEST DATE 06-08-84 1454 HOURS AVERAGED DATA

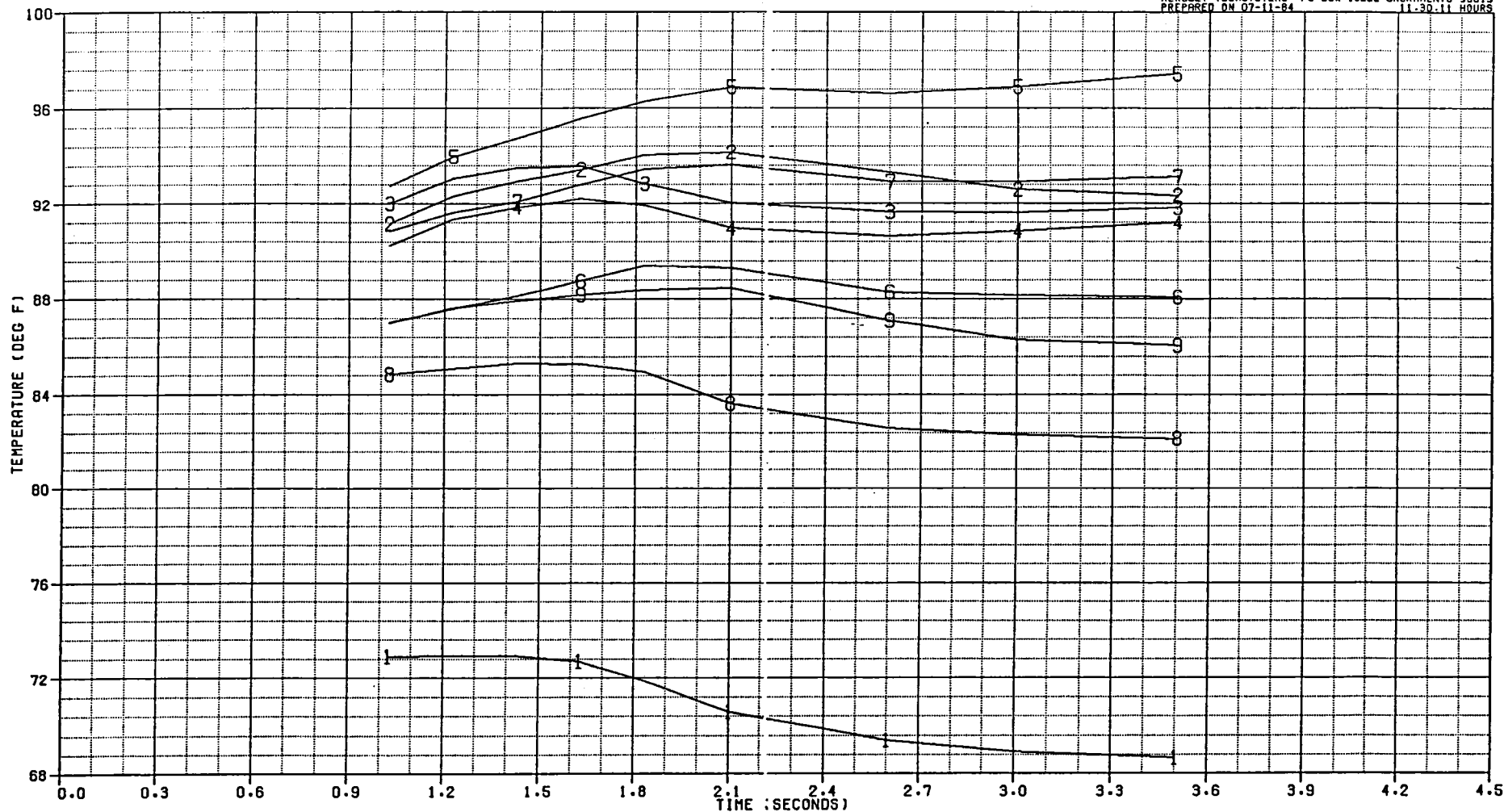
E1-156



- 1 QERM PERCENT
- 2 WERN1 PERCENT
- 3 WERN2 PERCENT
- 4 WERN3 PERCENT
- 5 WERN4 PERCENT
- 6 WERN5 PERCENT
- 7 WERN6 PERCENT

CHAMBER FLOW + HEAT LOAD ERRORS VS TIME
 TEST NO. RLBL-936-225
 TEST DATE 06-08-84 1454 HOURS AVERAGED DATA

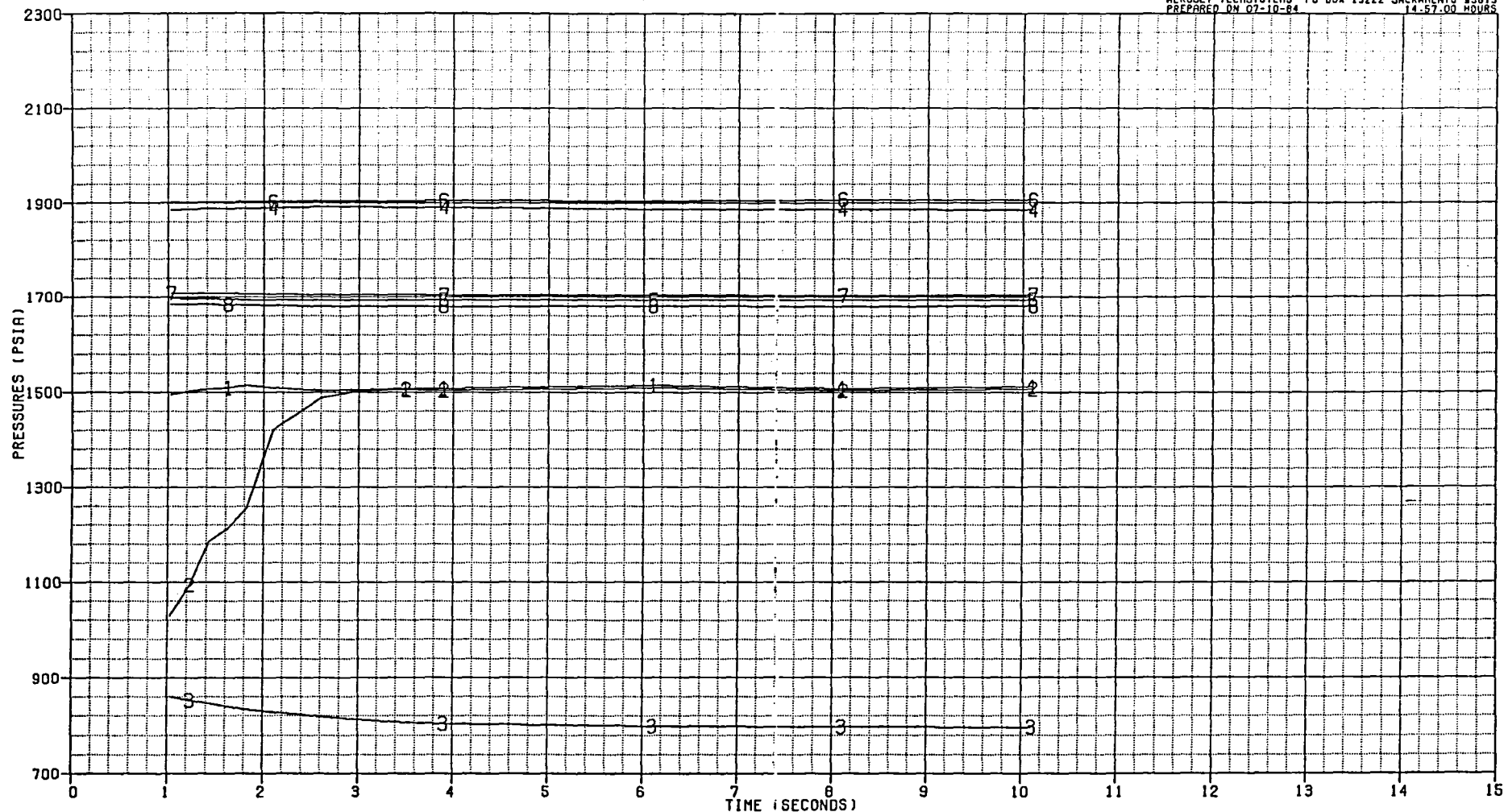
E1-157



COCLANT OUTLET TEMPERATURE VS TIME NO 2
 TEST NO. RLBL-936-225

TEST DATE 06-08-84 1454 HOURS AVERAGED DATA

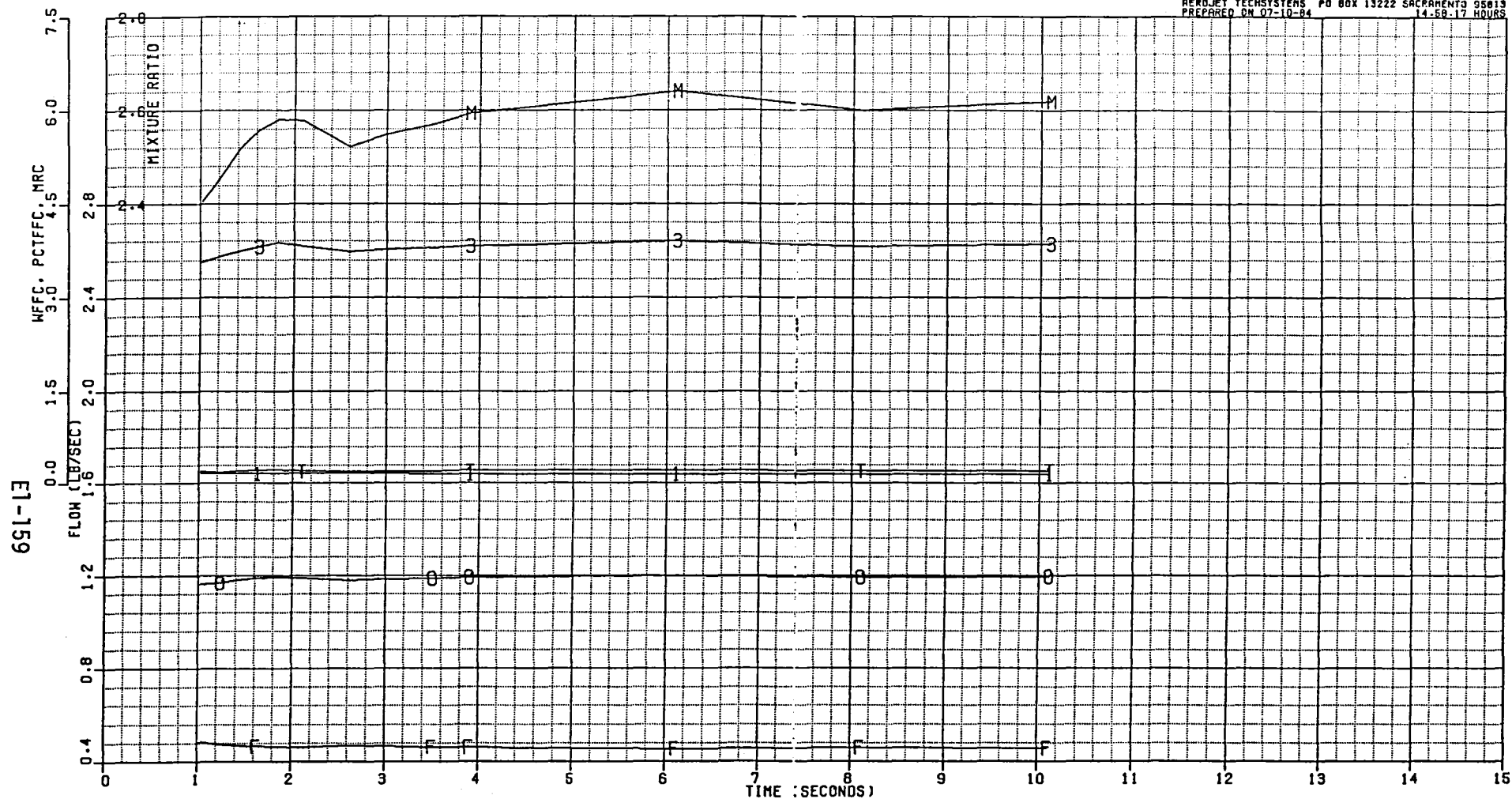
E1-158



- | | |
|---------|------|
| 1 PC-1 | PSIA |
| 2 POJI | PSIA |
| 3 PFJI | PSIA |
| 4 POJ | PSIA |
| 5 PFJ | PSIA |
| 6 POT | PSIA |
| 7 PFT | PSIA |
| 8 PFC-1 | PSIA |

INJECTOR PRESSURES VS TIME
 TEST NO. RLBL-936-226

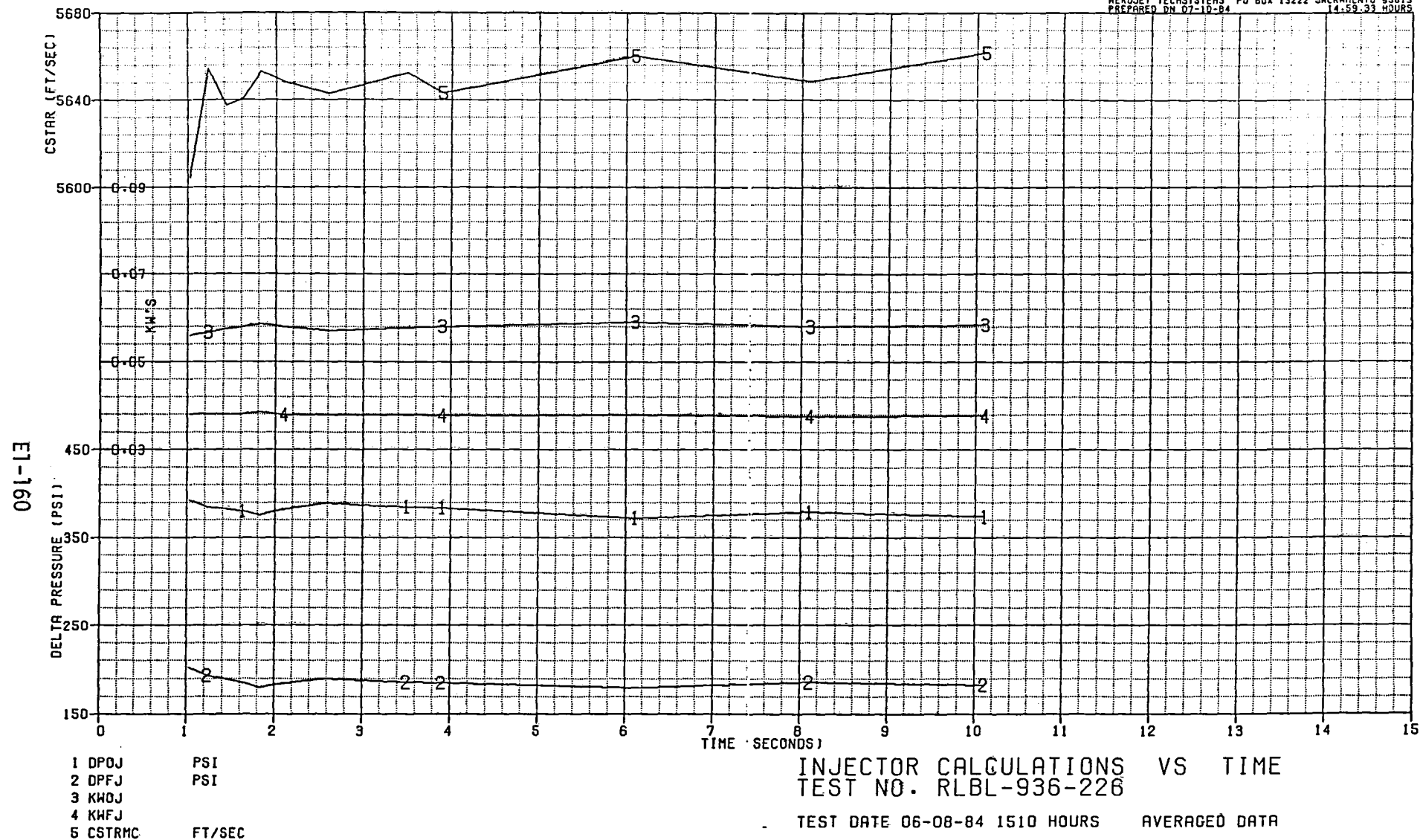
TEST DATE 06-08-84 1510 HOURS AVERAGED DATA

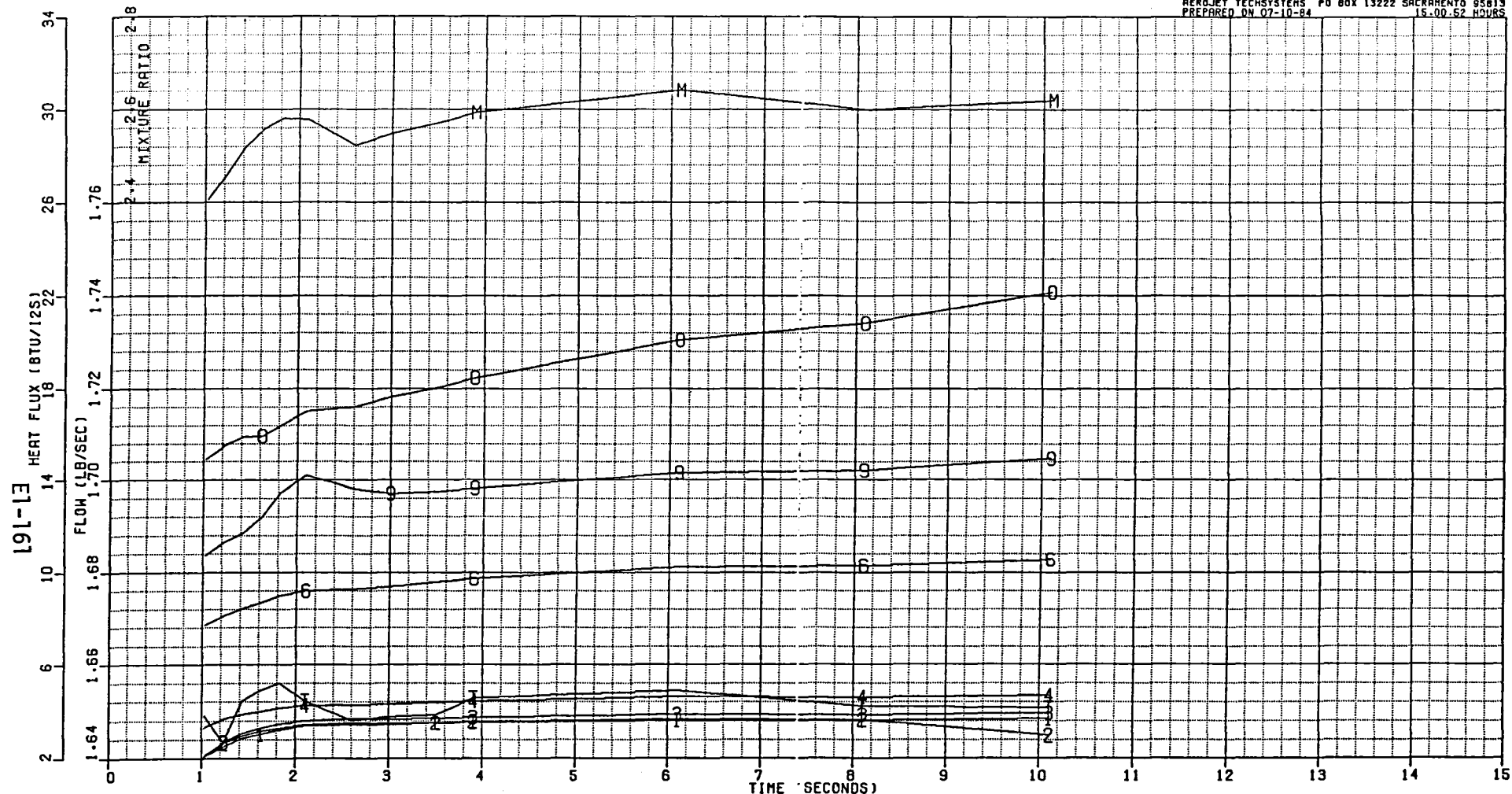


F WF LBS/SEC
 0 NOX LBS/SEC
 T WTOT LBS/SEC
 M MR
 1 WFEC LBS/SEC
 2 PCTFFC PERCENT
 3 MRC

INJECTOR FLOW VS TIME
 TEST NO. RLBL-936-226

TEST DATE 06-08-84 1510 HOURS AVERAGED DATA



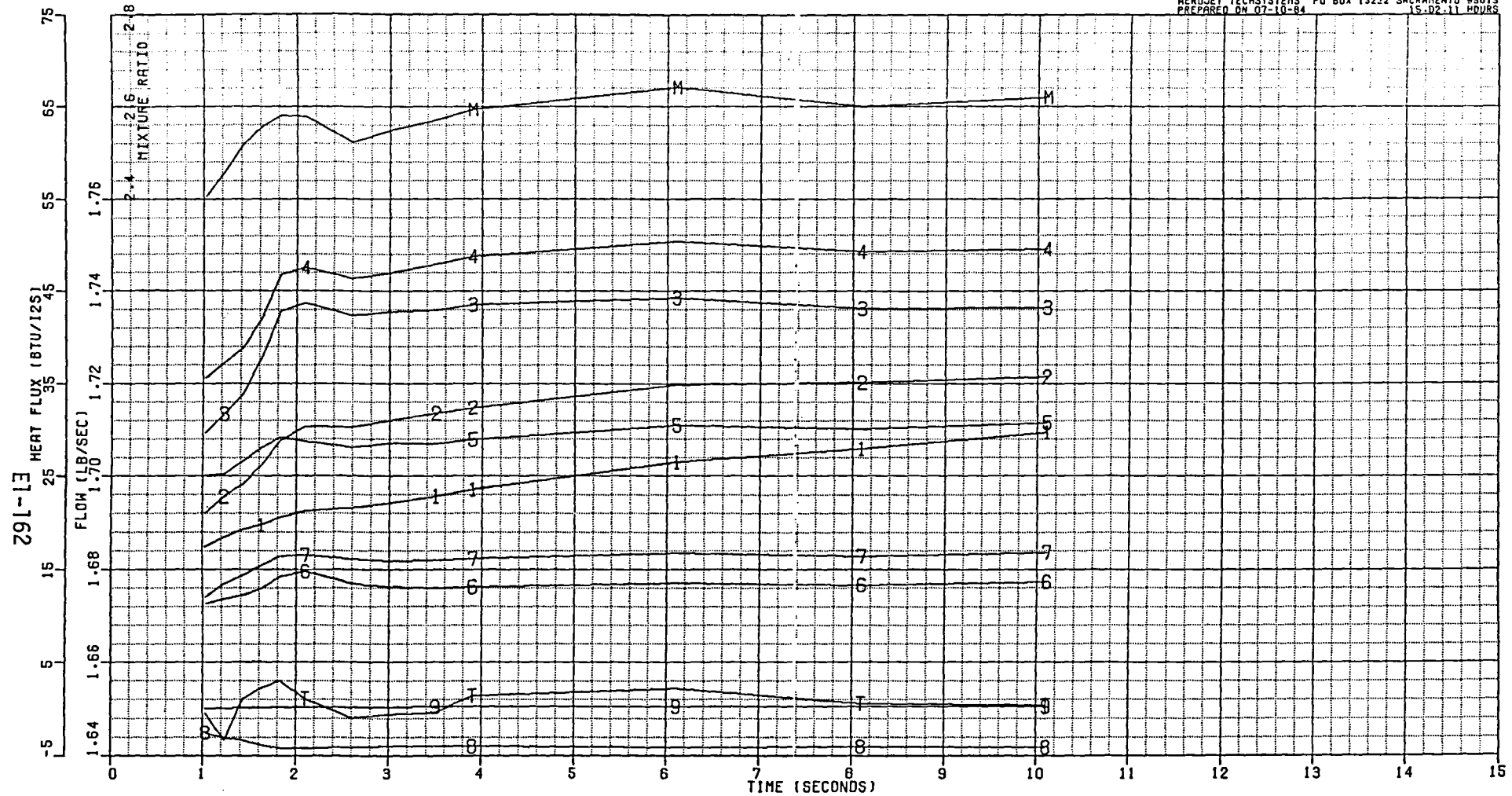


1 Q/AN1-2 BTU/12S M MR
 2 Q/AN1-3 BTU/12S
 3 Q/AN2-1 BTU/12S
 4 Q/AN2-2.-3 BTU/12S
 6 Q/AN3 BTU/12S
 9 Q/AN4 BTU/12S
 0 Q/AN5 BTU/12S
 T WTOT LBS/SEC

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-226

NOZZLE DATA

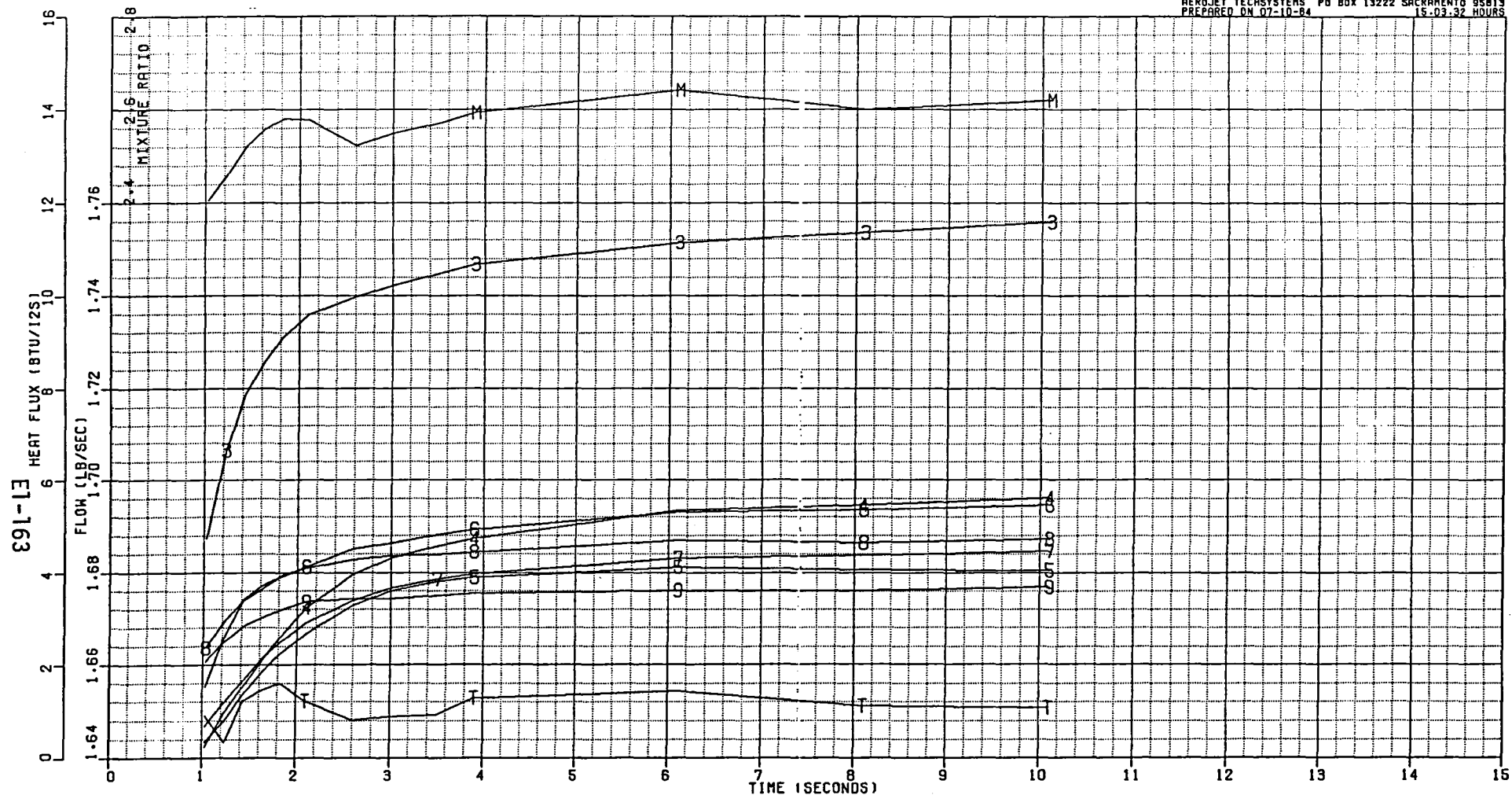
TEST DATE 06-08-84 1510 HOURS AVERAGED DATA



HEAT FLUX (Q/A) VS TIME
TEST NO. RLBL-936-226

NOZZLE DATA

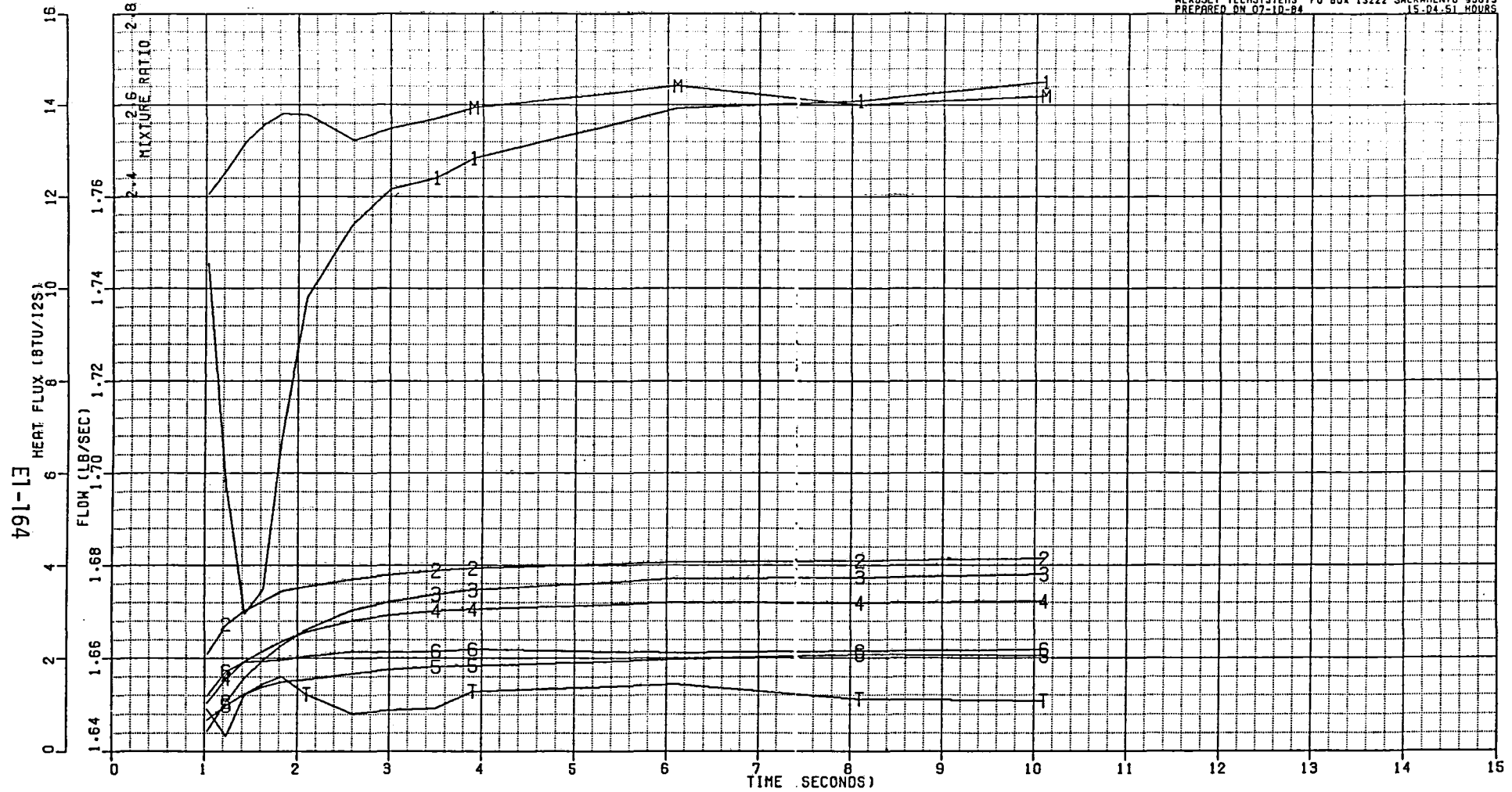
TEST DATE 06-08-84 1510 HOURS AVERAGED DATA



3 Q/A8B1-1 BTU/12S M MR
 4 Q/A8B2 BTU/12S
 5 Q/A8B1-2 BTU/12S
 6 Q/A8B4-1 BTU/12S
 7 Q/A8B4-2.3 BTU/12S
 8 Q/AN1-1 BTU/12S
 9 Q/AN1-2 BTU/12S
 T WTOT LBS/SEC

HEAT FLUX (Q/A) VS TIME BARREL DATA
 TEST NO. RLBL-936-226

TEST DATE 06-08-84 1510 HOURS AVERAGED DATA

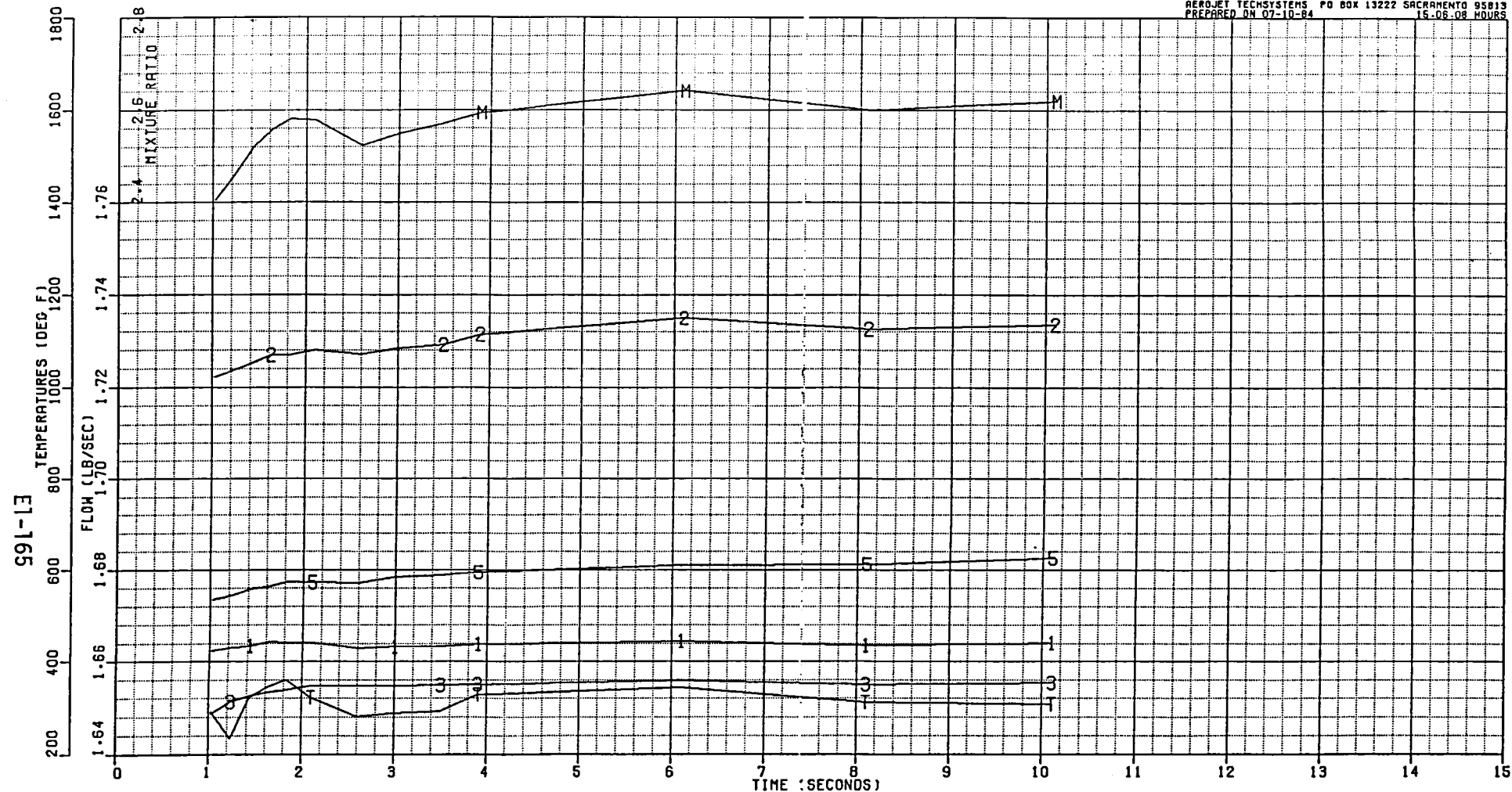


1 Q/ATRM C BTU/125
 2 Q/A12B6-1 BTU/125
 3 Q/A12B6-2.5 BTU/125
 4 Q/A12B3.4 BTU/125
 5 Q/A12B1-2.2 BTU/125
 6 Q/A12B1-1 BTU/125
 T WTOT LBS/SEC
 H MR

HEAT FLUX (Q/A) VS TIME
 TEST NO. RLBL-936-226

MISC. DATA

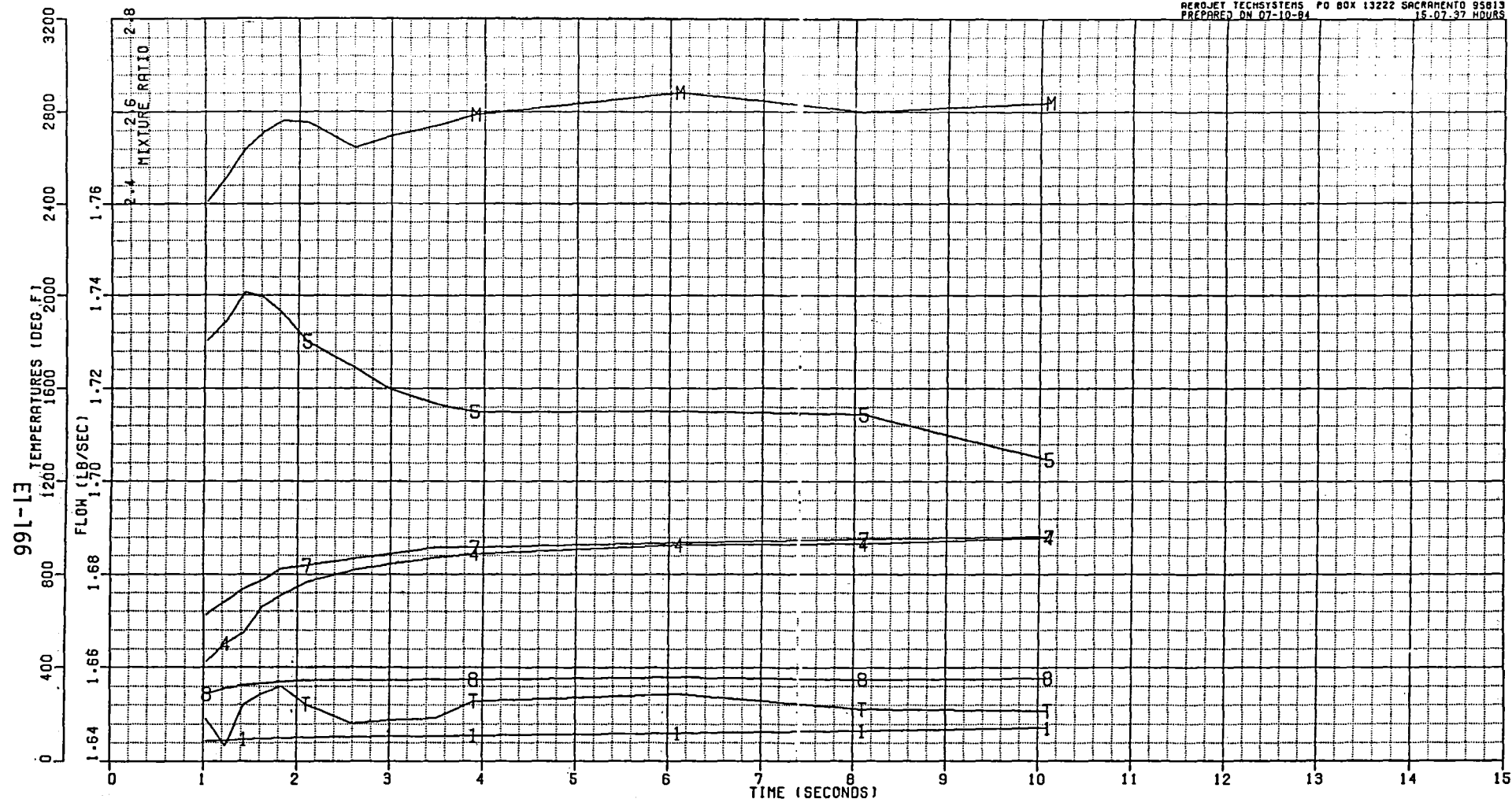
TEST DATE 06-08-84 1510 HOURS AVERAGED DATA



1 TC-1 DEG F
 2 TC-2 DEG F
 3 TC-3 DEG F
 5 TC-5 DEG F
 T WTOT LBS/SEC
 M MR

GAS SIDE WALL TEMPERATURE VS TIME NOZZLE
 TEST NO. RLBL-936-226

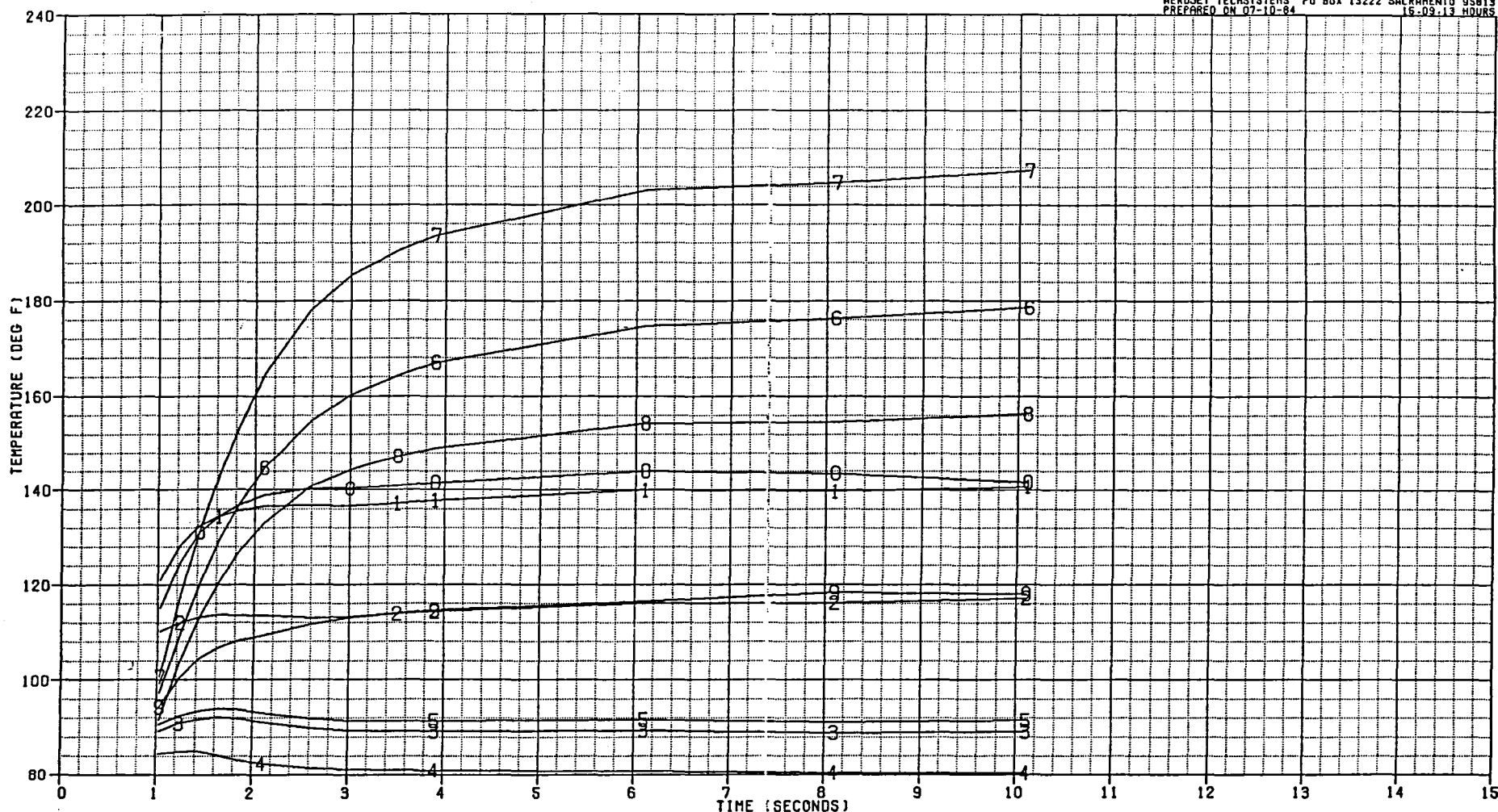
TEST DATE 06-08-84 1510 HOURS AVERAGED DATA



GAS SIDE WALL TEMPERATURE VS TIME BARREL
 TEST NO. RLBL-936-226

TEST DATE 06-08-84 1510 HOURS AVERAGED DATA

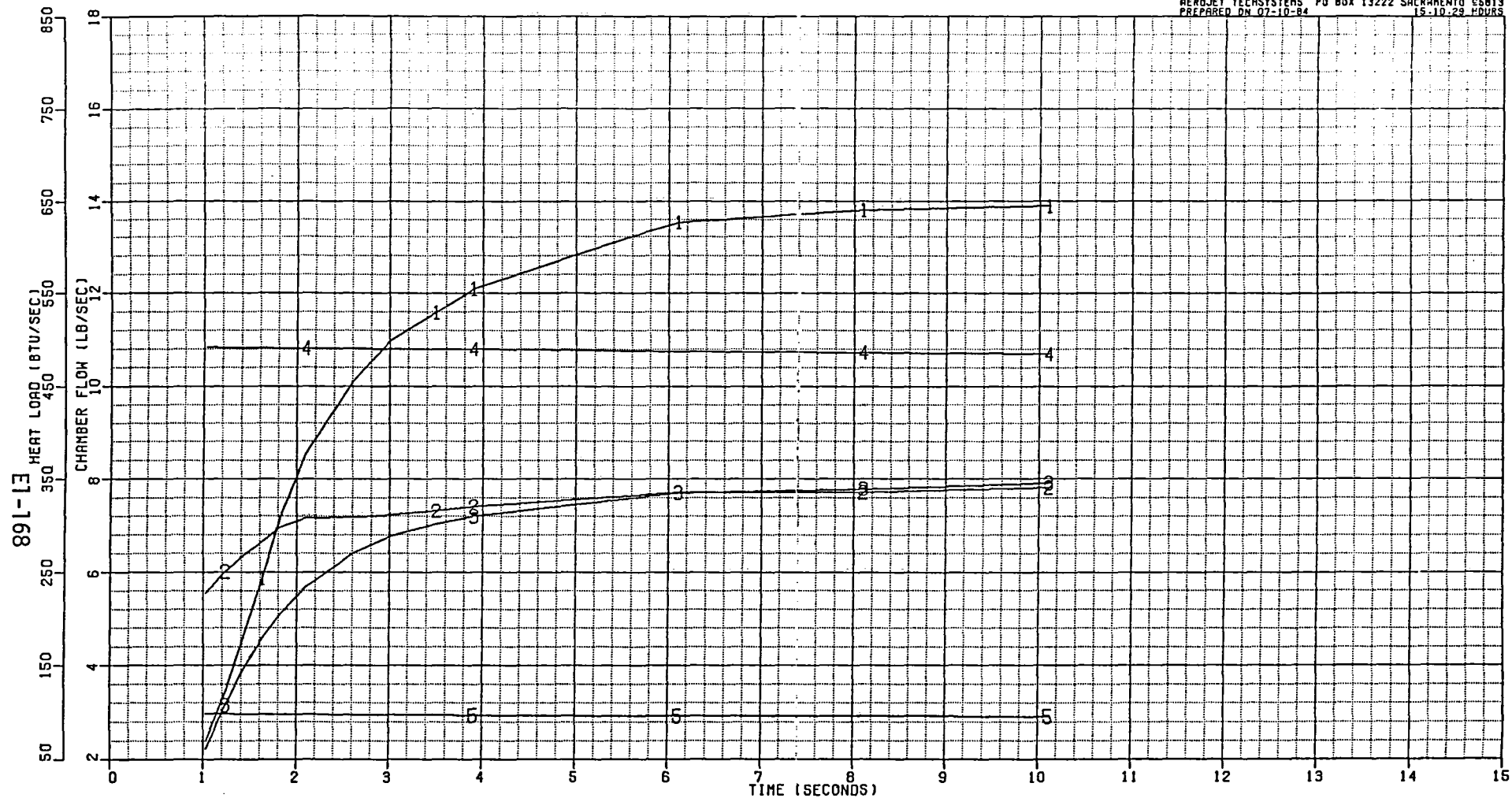
E1-167



- | | | | |
|----------|-------|----------|-------|
| 0 TWC-6 | DEG F | 8 TWC-31 | DEG F |
| 1 TWC-7 | DEG F | 9 TWC-32 | DEG F |
| 2 TWC-10 | DEG F | | |
| 3 TWC-21 | DEG F | | |
| 4 TWC-22 | DEG F | | |
| 5 TWC-23 | DEG F | | |
| 6 TWC-26 | DEG F | | |
| 7 TWC-27 | DEG F | | |

COOLANT OUTLET TEMPERATURE VS TIME NO 1
 TEST NO. RLBL-936-226

TEST DATE 06-08-84 1510 HOURS AVERAGED DATA



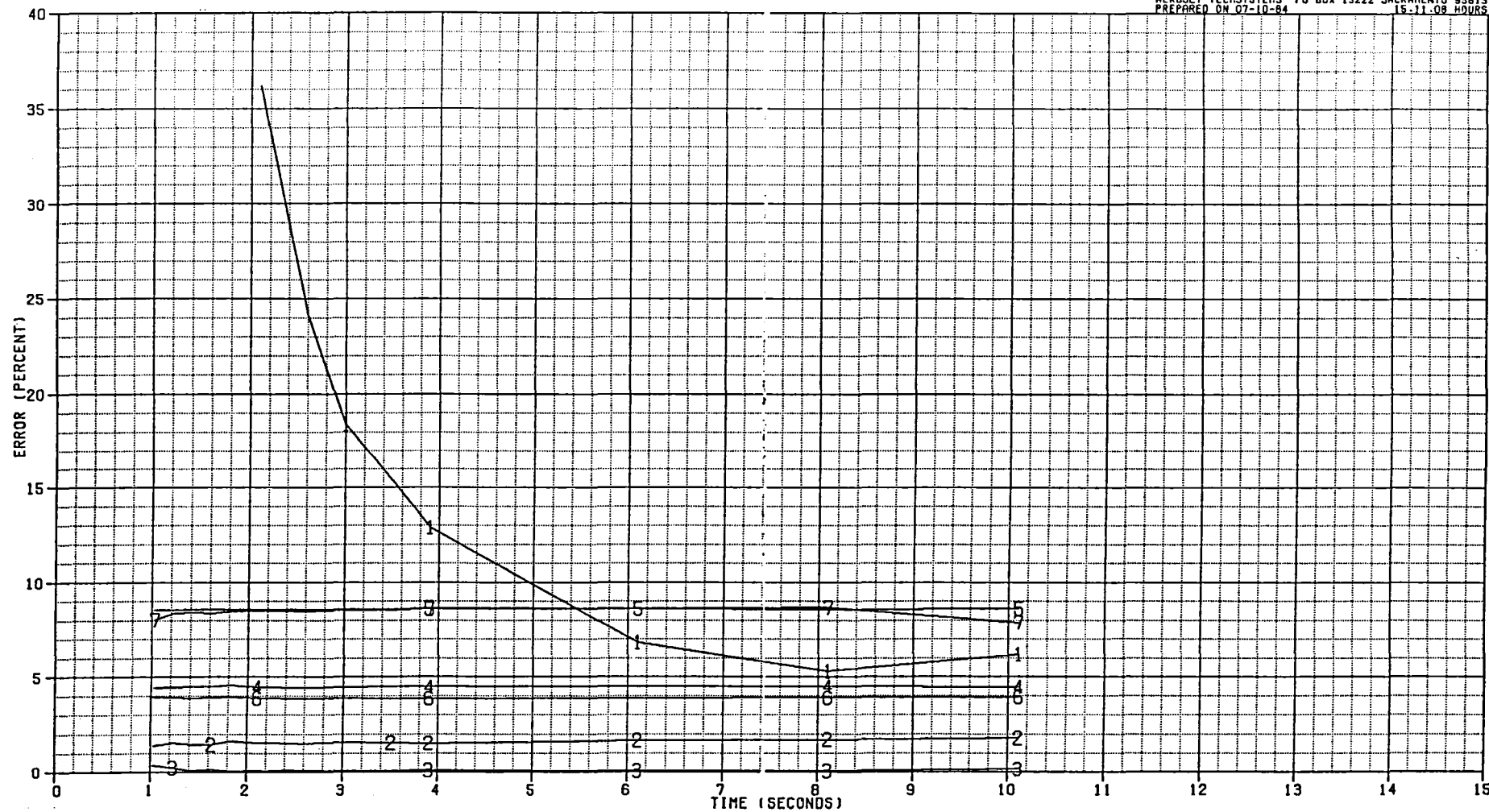
1 QM
 2 QNT
 3 Q8BT
 4 HW1
 5 HW2

BTU/SEC
 BTU/SEC
 BTU/SEC
 LBS/SEC
 LBS/SEC

CHAMBER FLOW AND HEAT LOAD VS TIME
 TEST NO. RLBL-936-226

TEST DATE 06-08-84 1510 HOURS AVERAGED DATA

E1-169

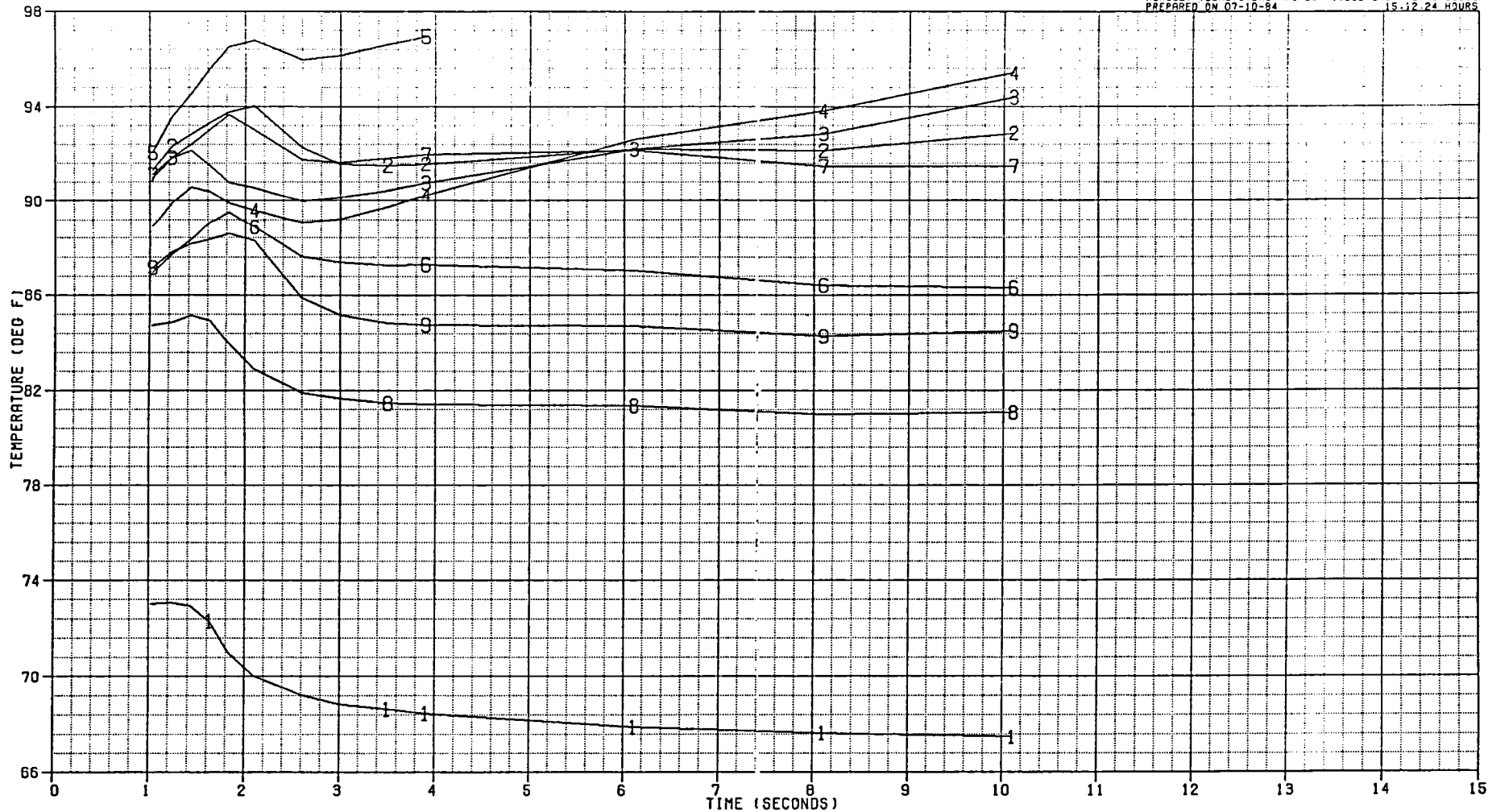


1 QERM PERCENT
 2 WERNT PERCENT
 3 WER8BT PERCENT
 4 WER12B1 PERCENT
 5 WER12B3 PERCENT
 6 WER12B5 PERCENT
 7 WERN10 PERCENT

CHAMBER FLOW + HEAT LOAD ERRORS VS TIME
 TEST NO. RLBL-936-226

TEST DATE 06-08-84 1510 HOURS AVERAGED DATA

E1-170



- | | | | |
|----------|-------|----------|-------|
| 1 TWC-1 | DEG F | 9 TWC-20 | DEG F |
| 2 TWC-13 | DEG F | | |
| 3 TWC-14 | DEG F | | |
| 4 TWC-15 | DEG F | | |
| 5 TWC-16 | DEG F | | |
| 6 TWC-17 | DEG F | | |
| 7 TWC-18 | DEG F | | |
| 8 TWC-19 | DEG F | | |

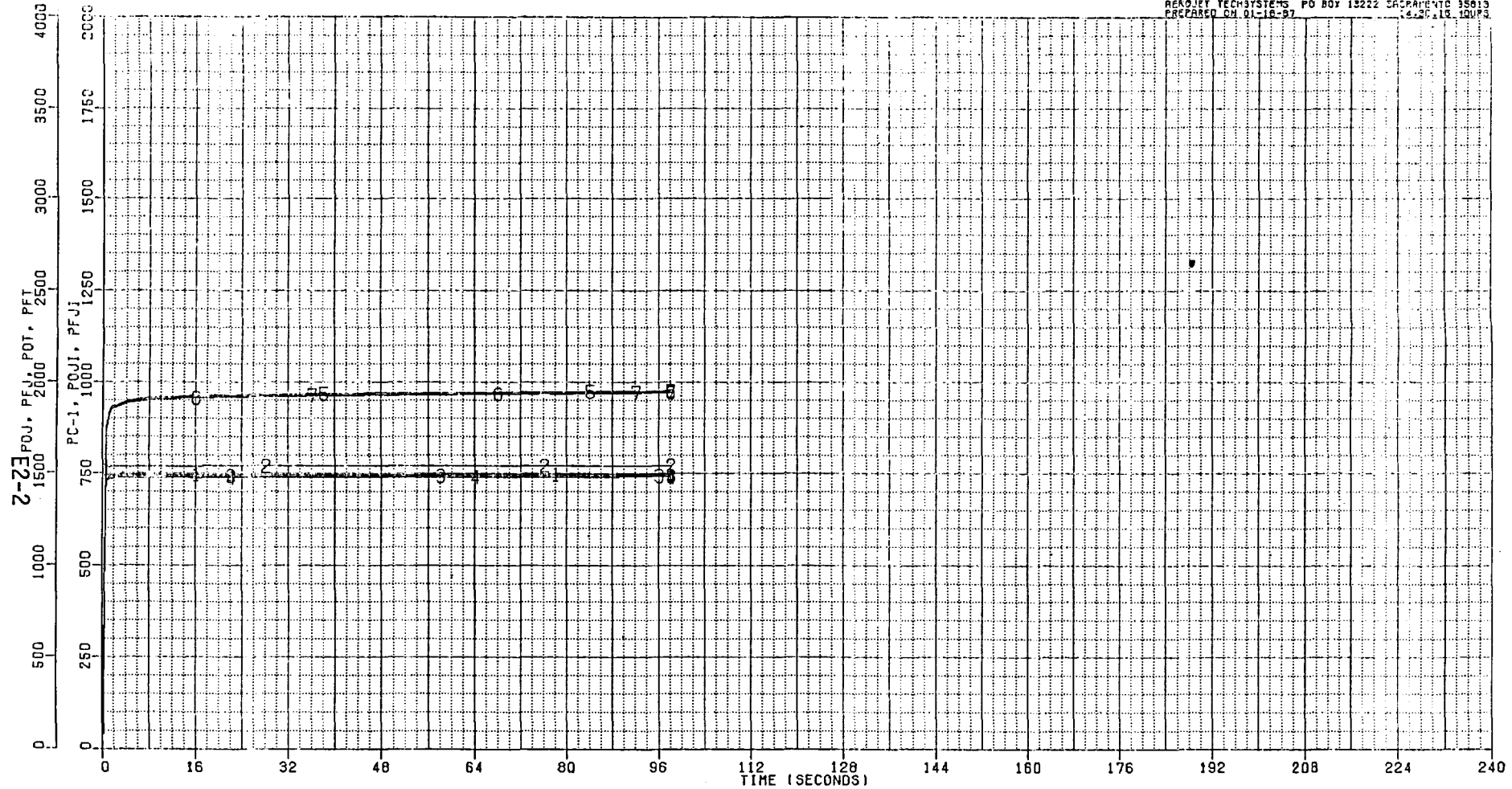
COOLANT OUTLET TEMPERATURE VS TIME NO 2
 TEST NO. RLBL-936-226

TEST DATE 06-08-84 1510 HOURS AVERAGED DATA

APPENDIX E-2

1984 RP-1

GAS GENERATOR DATA PLOTS

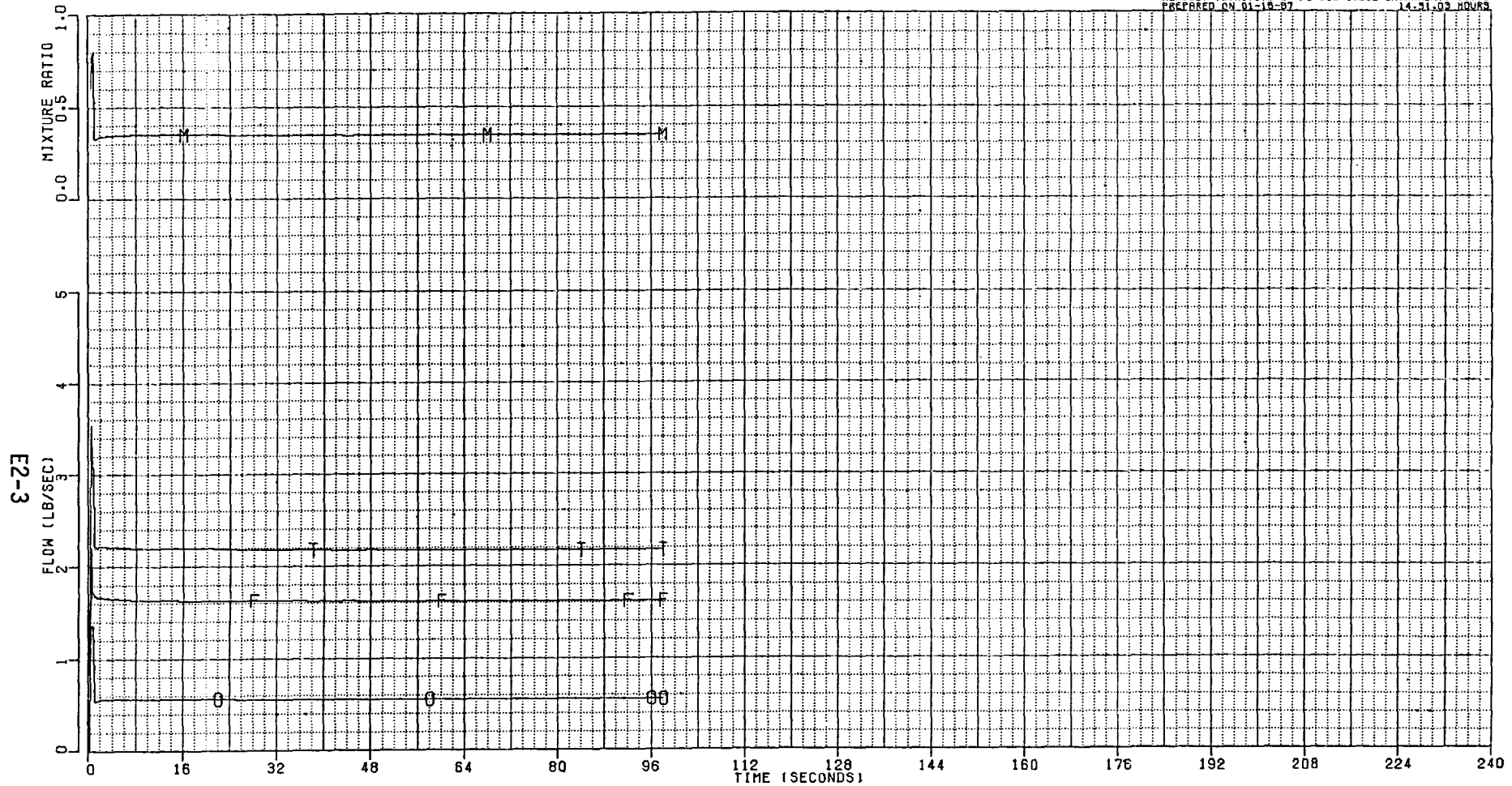


- | | |
|--------|------|
| 1 POT | PSIA |
| 2 PFT | PSIA |
| 3 POJ | PSIA |
| 4 PFJ | PSIA |
| 5 PC-1 | PSIA |
| 6 POJI | PSIA |
| 7 PFJI | PSIA |



MEASURED PRESSURES VS TIME
 TEST NO. 2427-936-A6-114

TEST DATE 02-24-84 1525 HOURS AVERAGED DATA

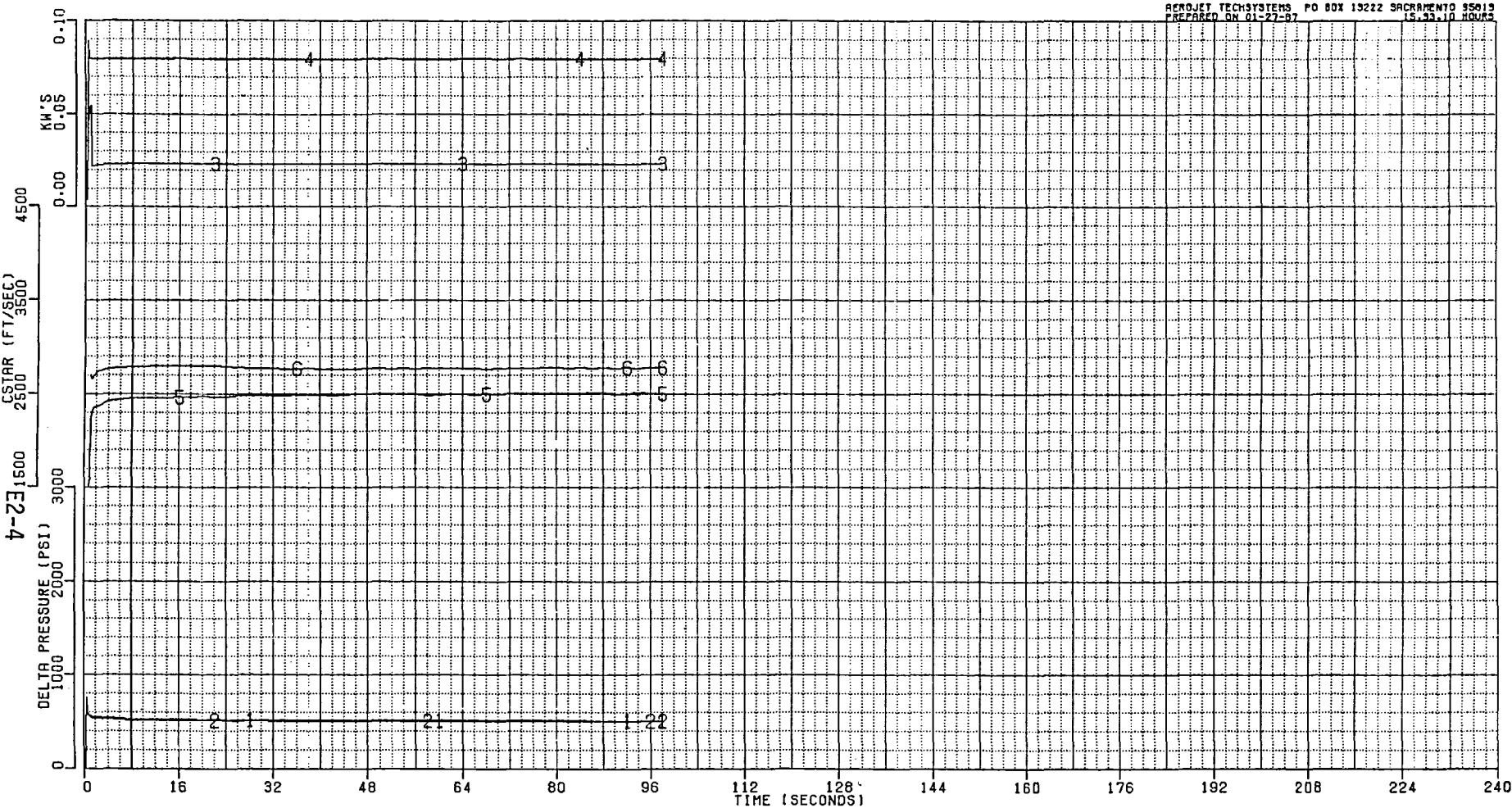


F WF LBS/SEC
 O WOX LBS/SEC
 T TOT LBS/SEC
 M MR

INJECTOR FLOW VS TIME
 TEST NO. 2427-936-A6-114

TEST DATE 02-24-84 1525 HOURS AVERAGED DATA





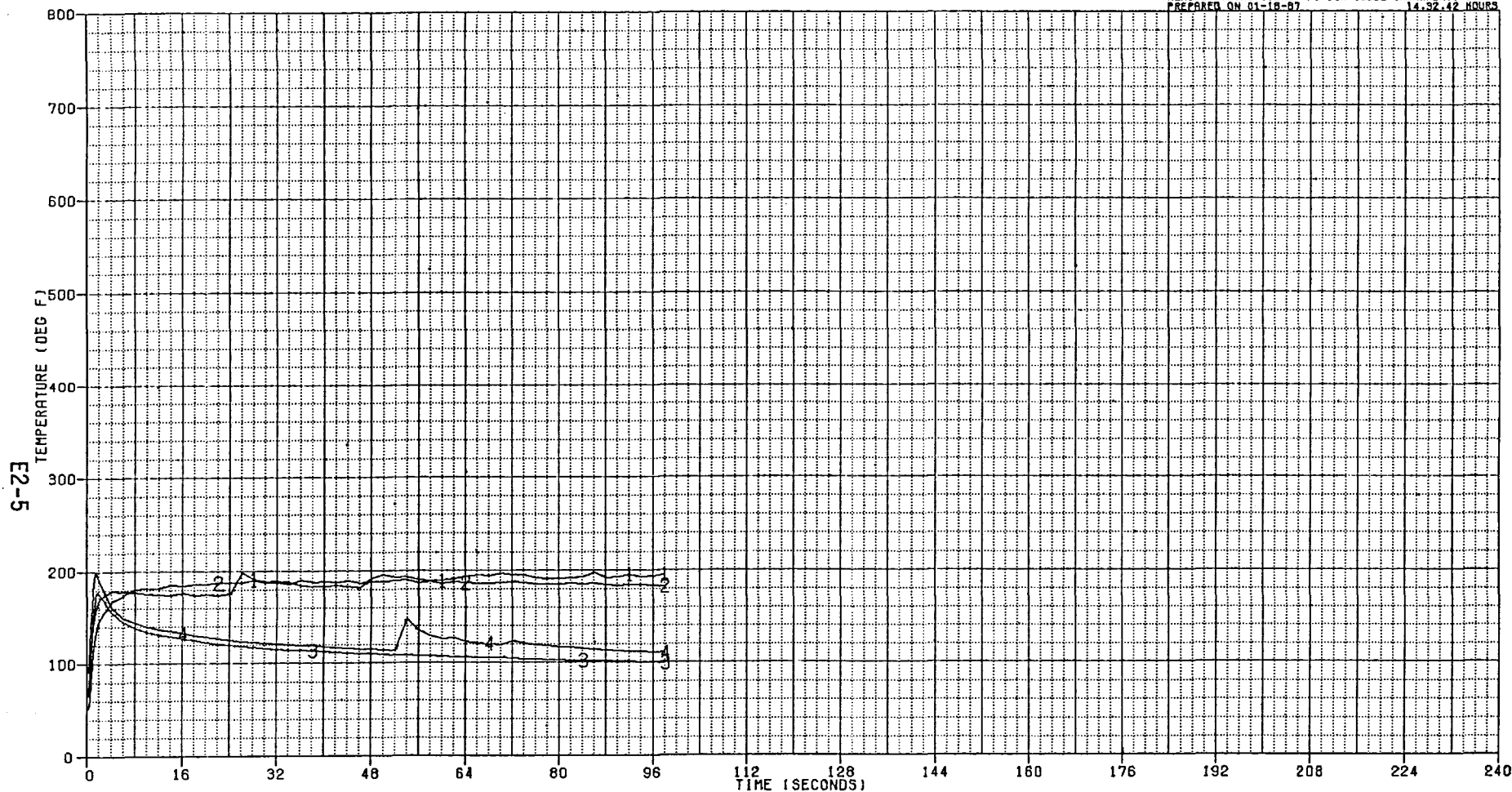
1 DPQJ PSI
2 DPFJ PSI
3 KWQJ PSI
4 KWFJ FT/SEC
5 CSTRPB FT/SEC
6 CSTAR FT/SEC

AEROJET
TechSystems
COMPANY

INJECTOR CALCULATIONS VS TIME
TEST NO. RLB6-936-114

TEST DATE 02-24-84 1525 HOURS AVERAGED DATA

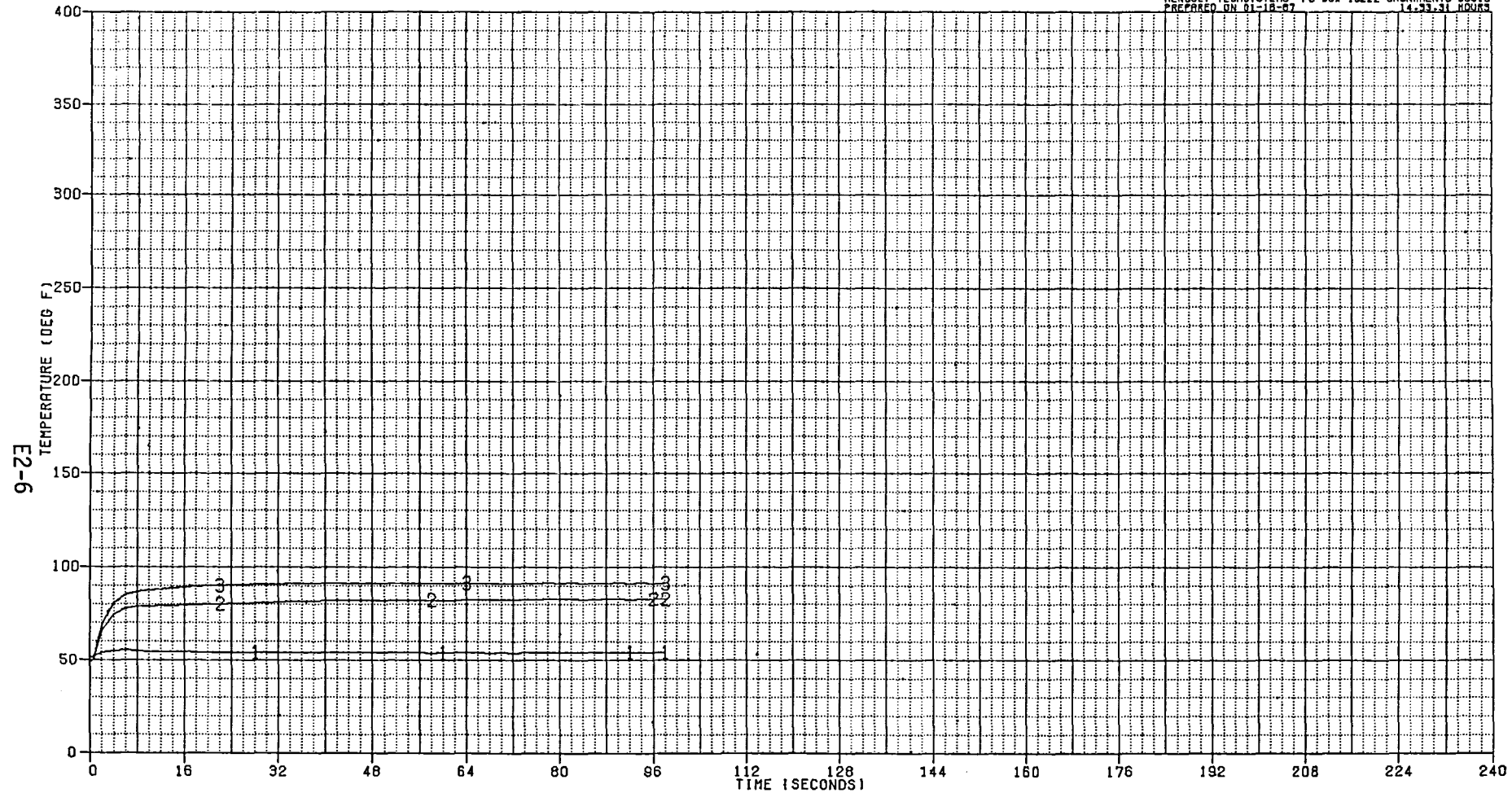
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813
PREPARED ON 01-16-87 14.32.42 HOURS



1 TC-7 DEG F
2 TC-10 DEG F
3 TC-11 DEG F
4 TC-12 DEG F

AEROJET
@TechSystems
COMPANY

GAS SIDE WALL TEMPERATURES VS TIME
TEST NO. 2427-936-A6-114
BARREL DATA
TEST DATE 02-24-84 1525 HOURS AVERAGED DATA

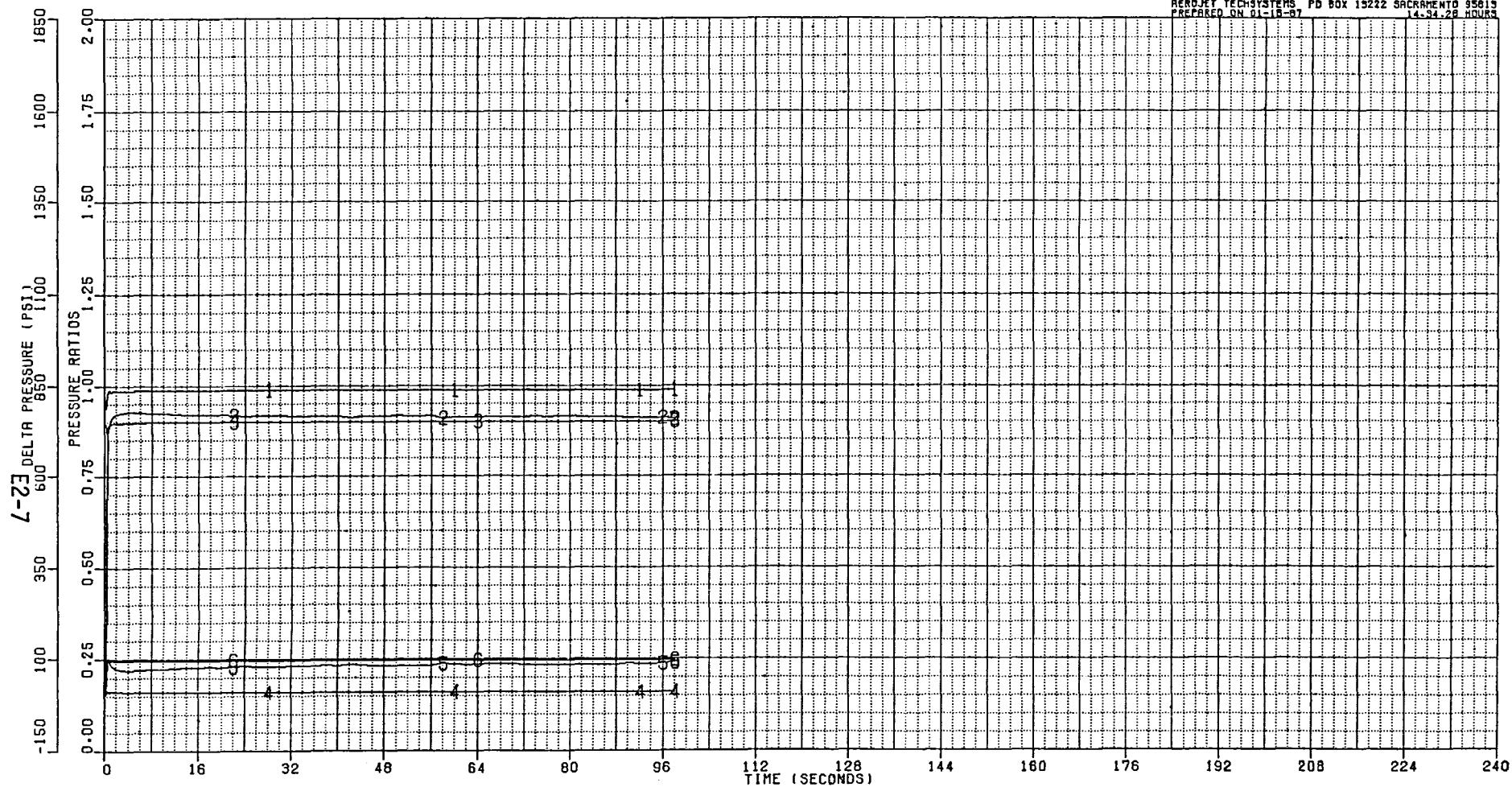


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F

COOLANT OUTLET TEMPERATURES VS TIME TEST NO. 2427-936-A6-114

TEST DATE 02-24-84 1525 HOURS AVERAGED DATA



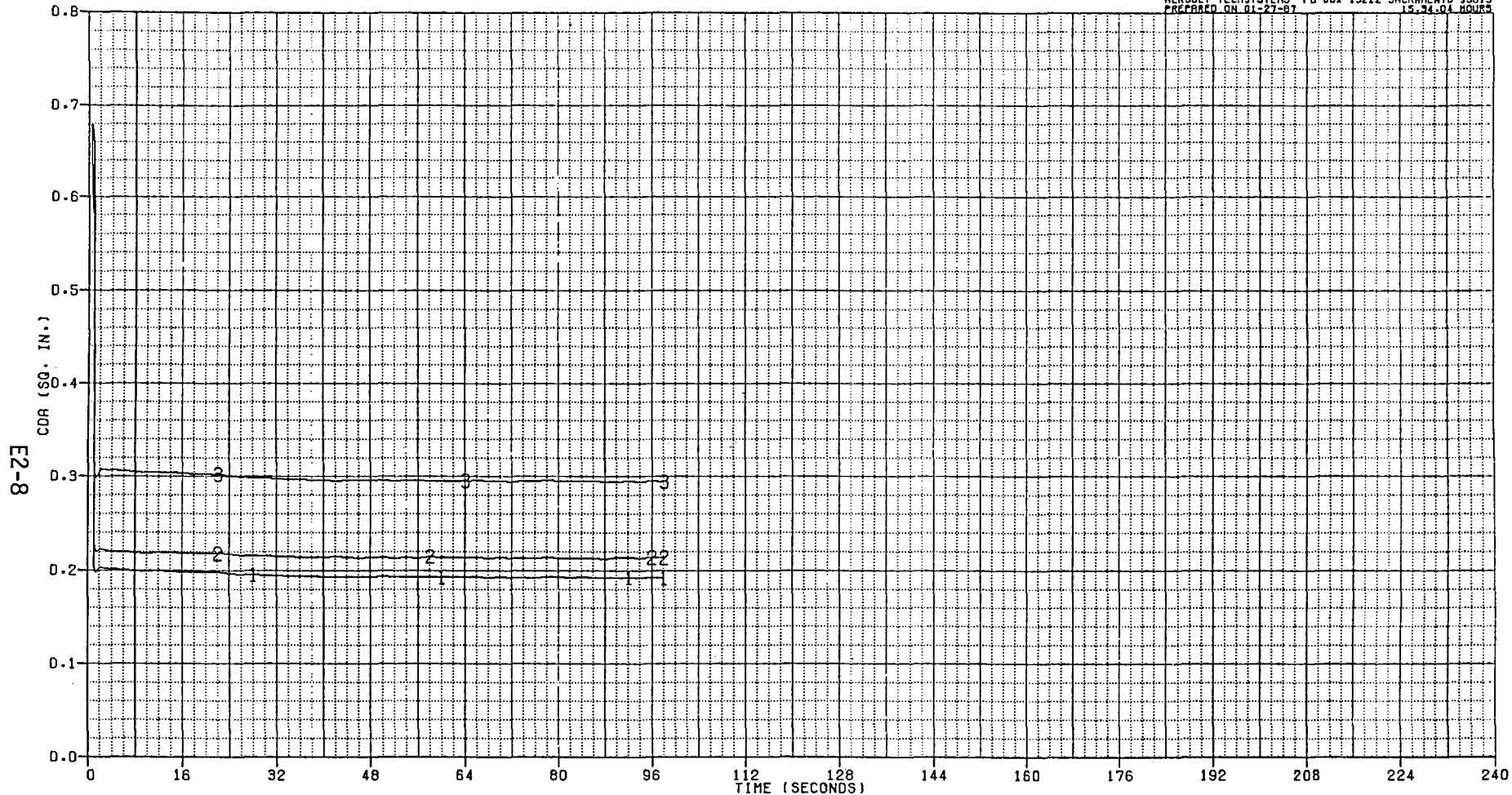


1 PRTR
2 PRTS
3 PRISC
4 DPTR
5 DPTS
6 OPTSM

PSI
PSI
PSI

AEROJET
TechSystems
COMPANY

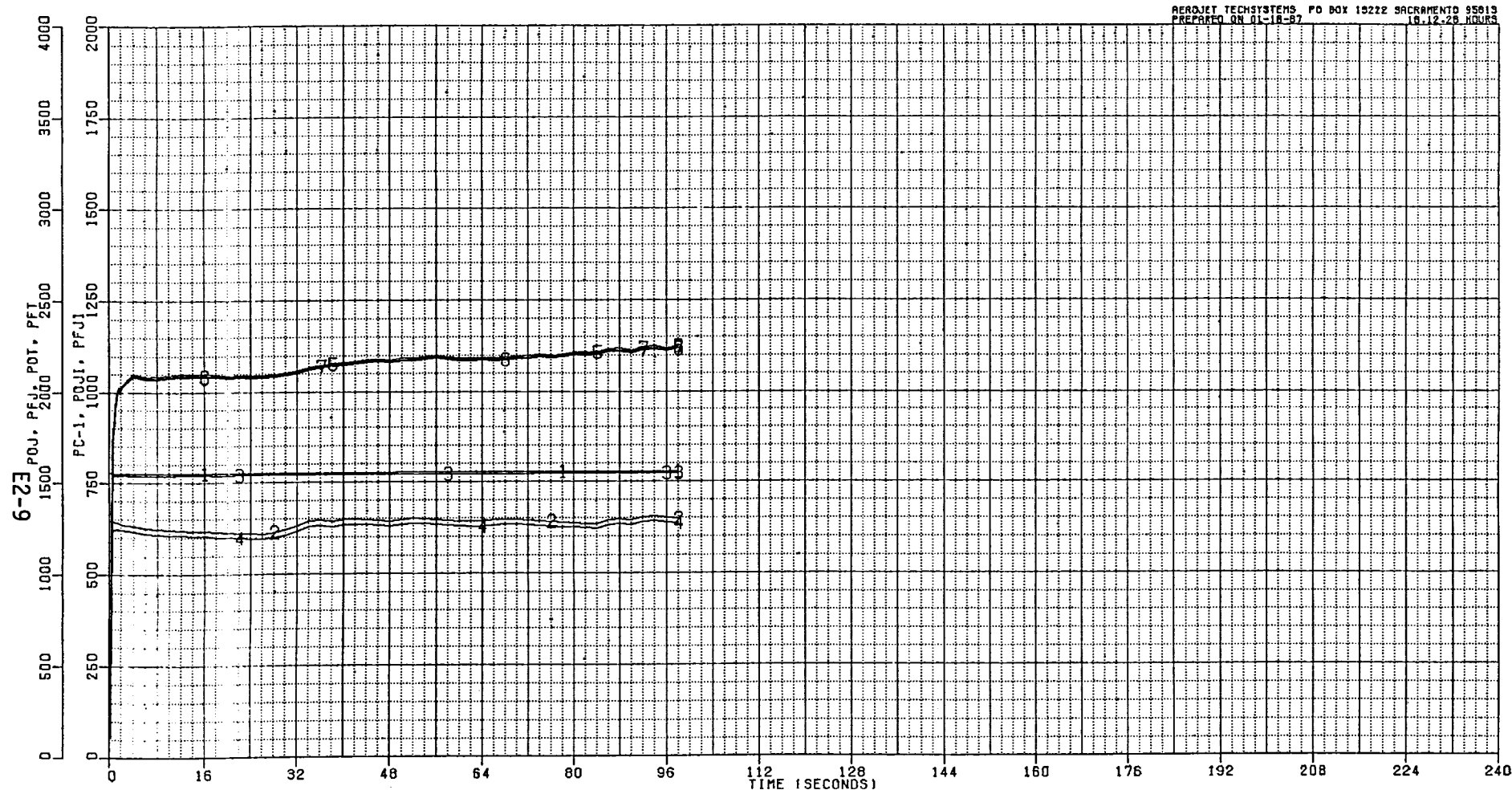
TURBINE BUILD-UP DATA VS TIME
TEST NO. 2427-936-A6-114
CHAMBER PRESSURE DROPS AND RATIOS
TEST DATE 02-24-84 1525 HOURS AVERAGED DATA



1 NR1 SQ. IN.
 2 NR2 SQ. IN.
 3 CDR

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLB6-936-114
 NOZZLE AREA CHANGE
 TEST DATE 02-24-84 1525 HOURS AVERAGED DATA





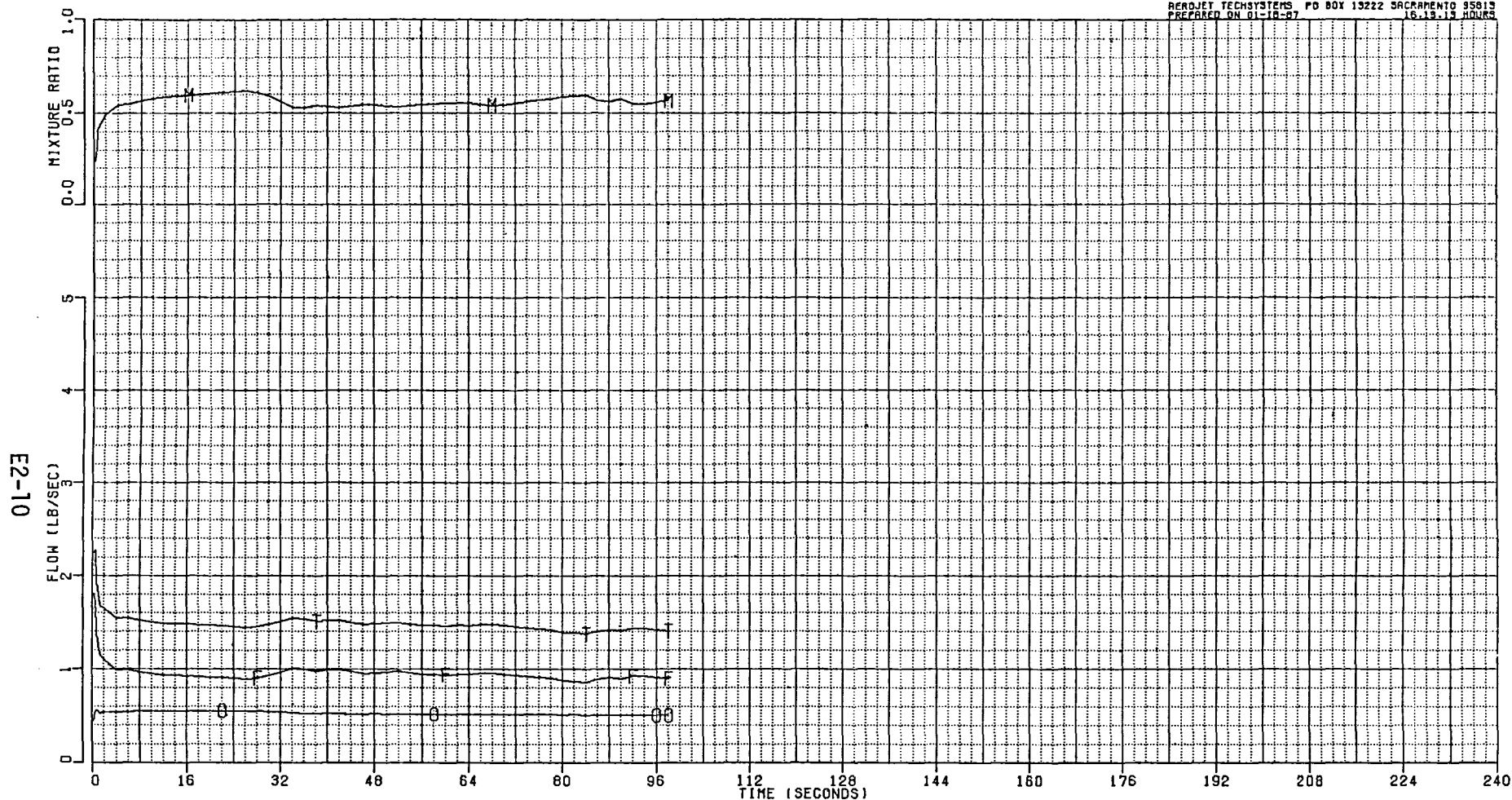
1 POT PSIA
 2 PFT PSIA
 3 POJ PSIA
 4 PFJ PSIA
 5 PC-1 PSIA
 6 POJ PSIA
 7 PFJ PSIA

AEROJET
TechSystems
 COMPANY

MEASURED PRESSURES VS TIME
 TEST NO. 2427-936-A6-115

TEST DATE 02-24-84 1617 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS, PO BOX 15222 SACRAMENTO 95813
 PREPARED ON 01-18-87 16.12.28 HOURS



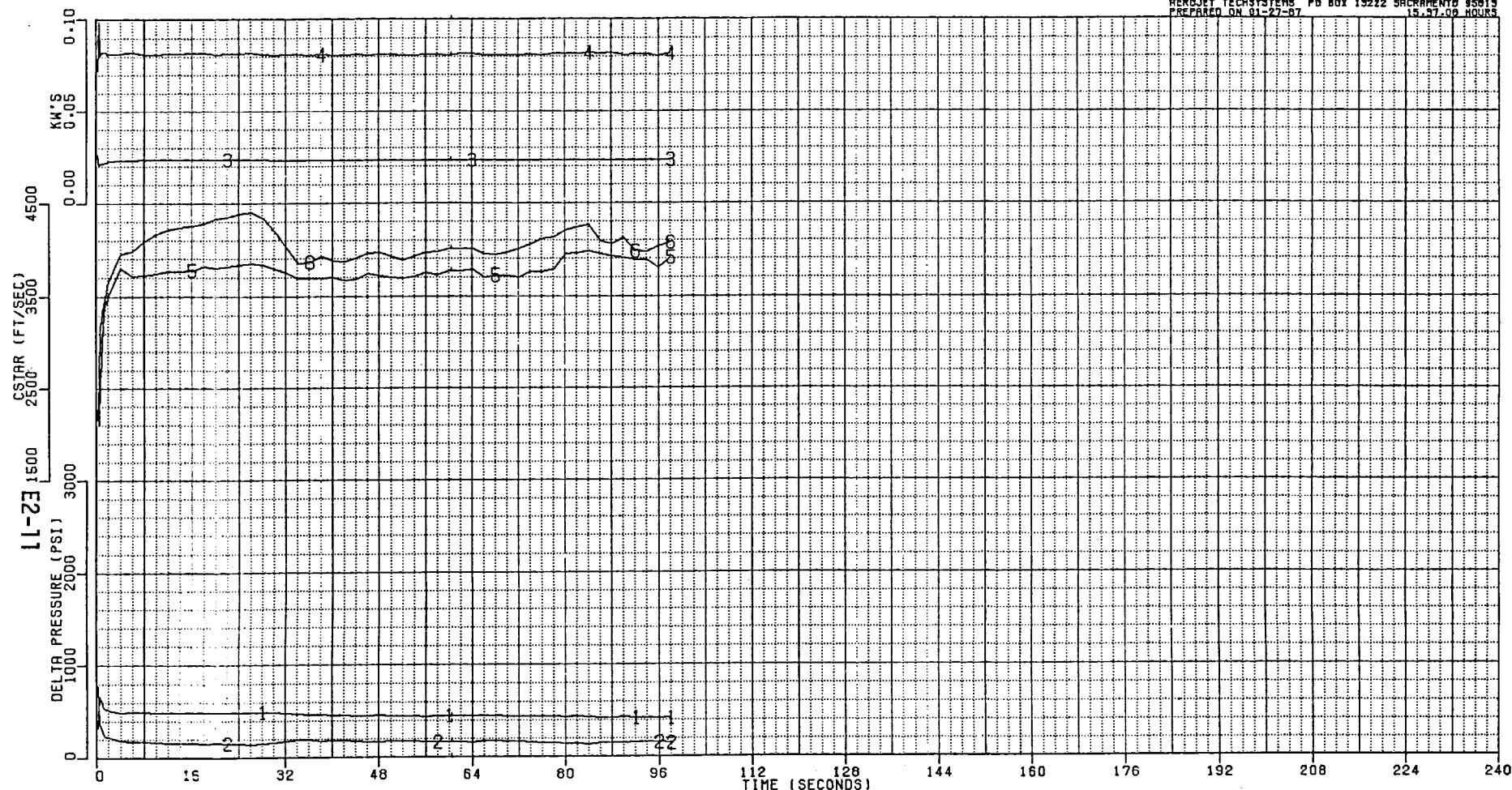
F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR

INJECTOR FLOW VS TIME
 TEST NO. 2427-936-A6-115

TEST DATE 02-24-84 1617 HOURS AVERAGED DATA

AEROJET
TechSystems
 COMPANY

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813
 PREPARED ON 01-27-87 15:27:00 HOURS

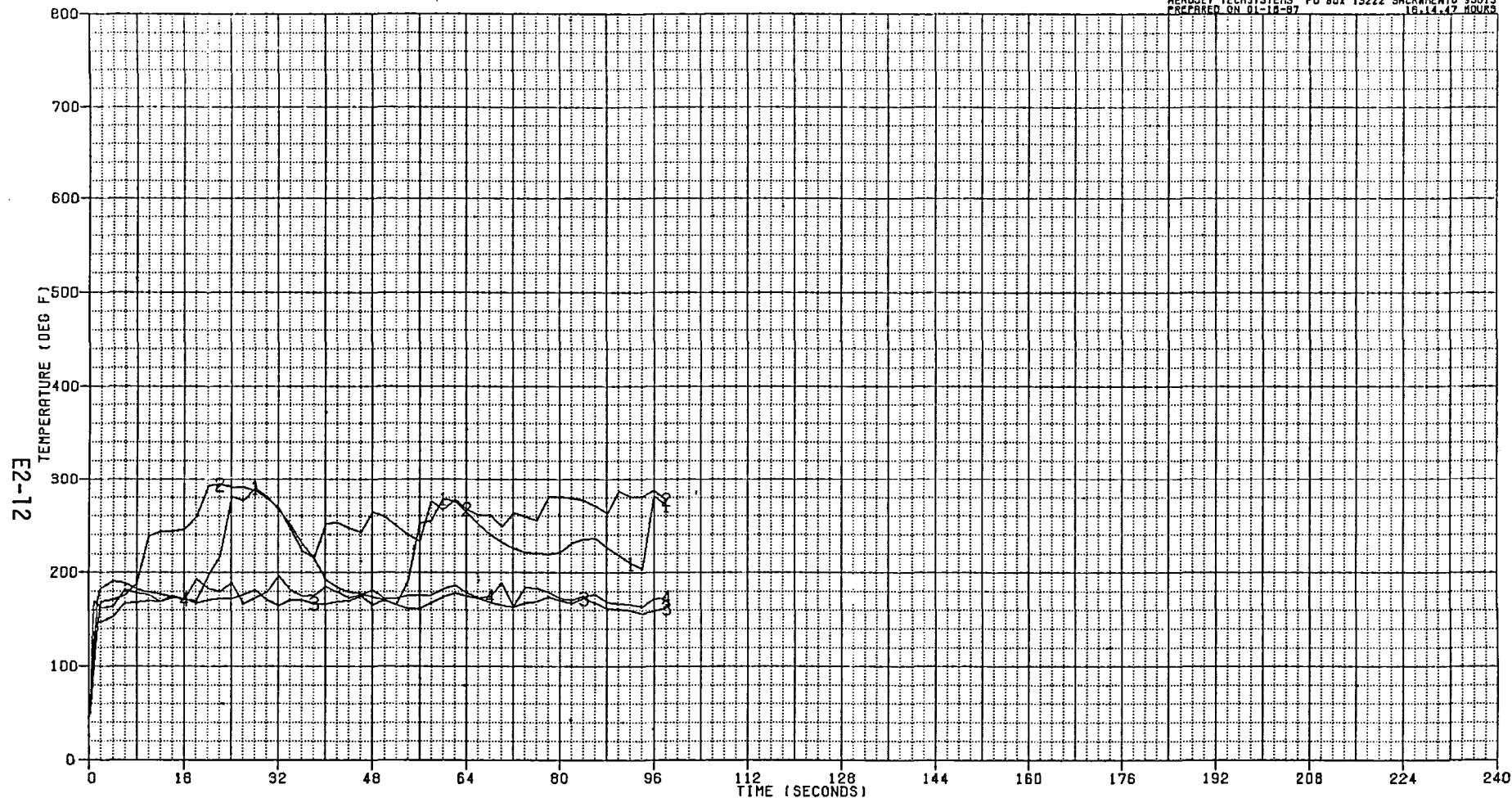


- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ
- 4 KWFJ
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

AEROJET
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 COMPANY

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLB6-936-115

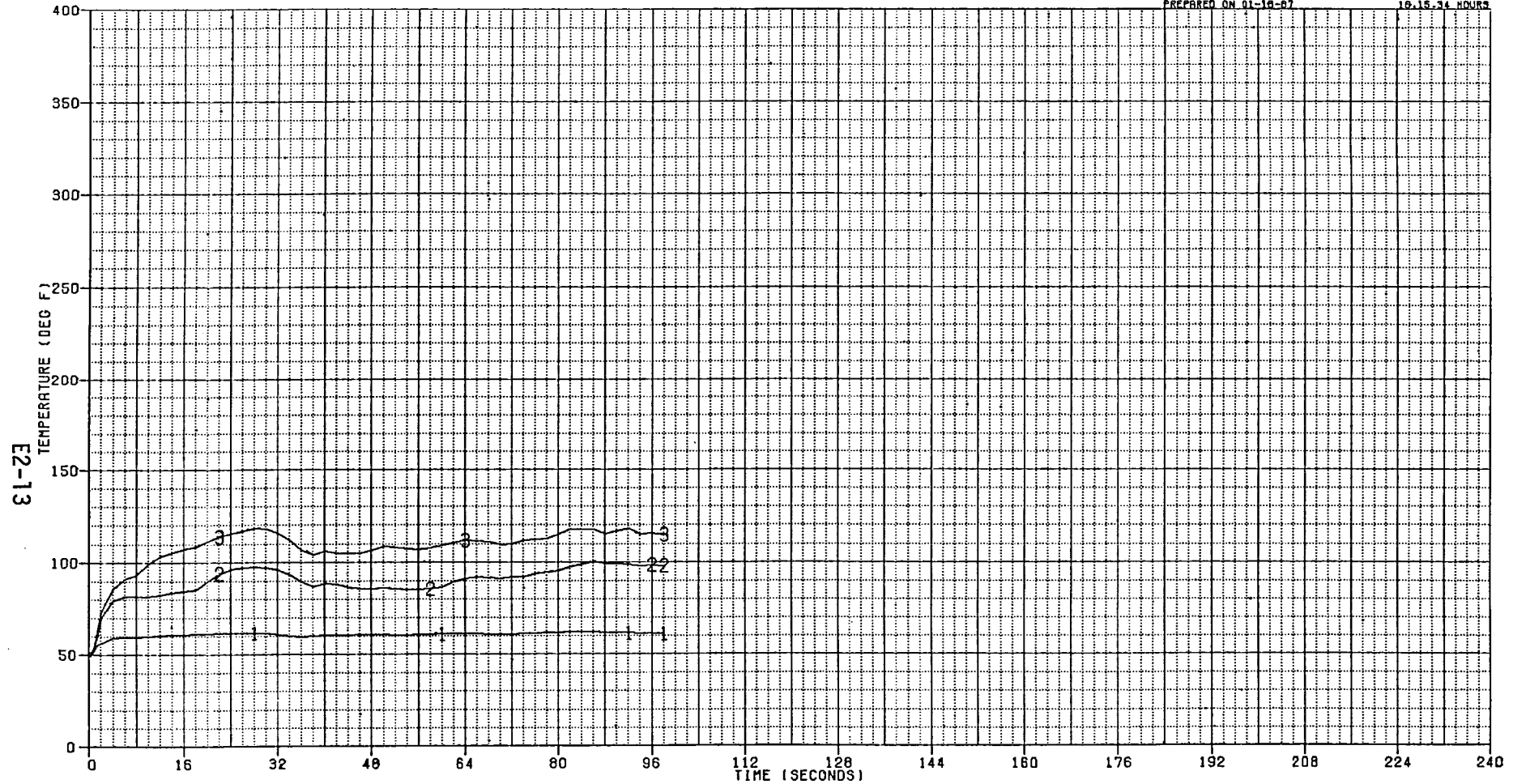
TEST DATE 02-24-84 1617 HOURS AVERAGED DATA



1 TC-7 DEG F
2 TC-10 DEG F
3 TC-11 DEG F
4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME
TEST NO. 2427-936-A6-115
BARREL DATA
TEST DATE 02-24-84 1617 HOURS AVERAGED DATA

AEROJET
TechSystems
COMPANY

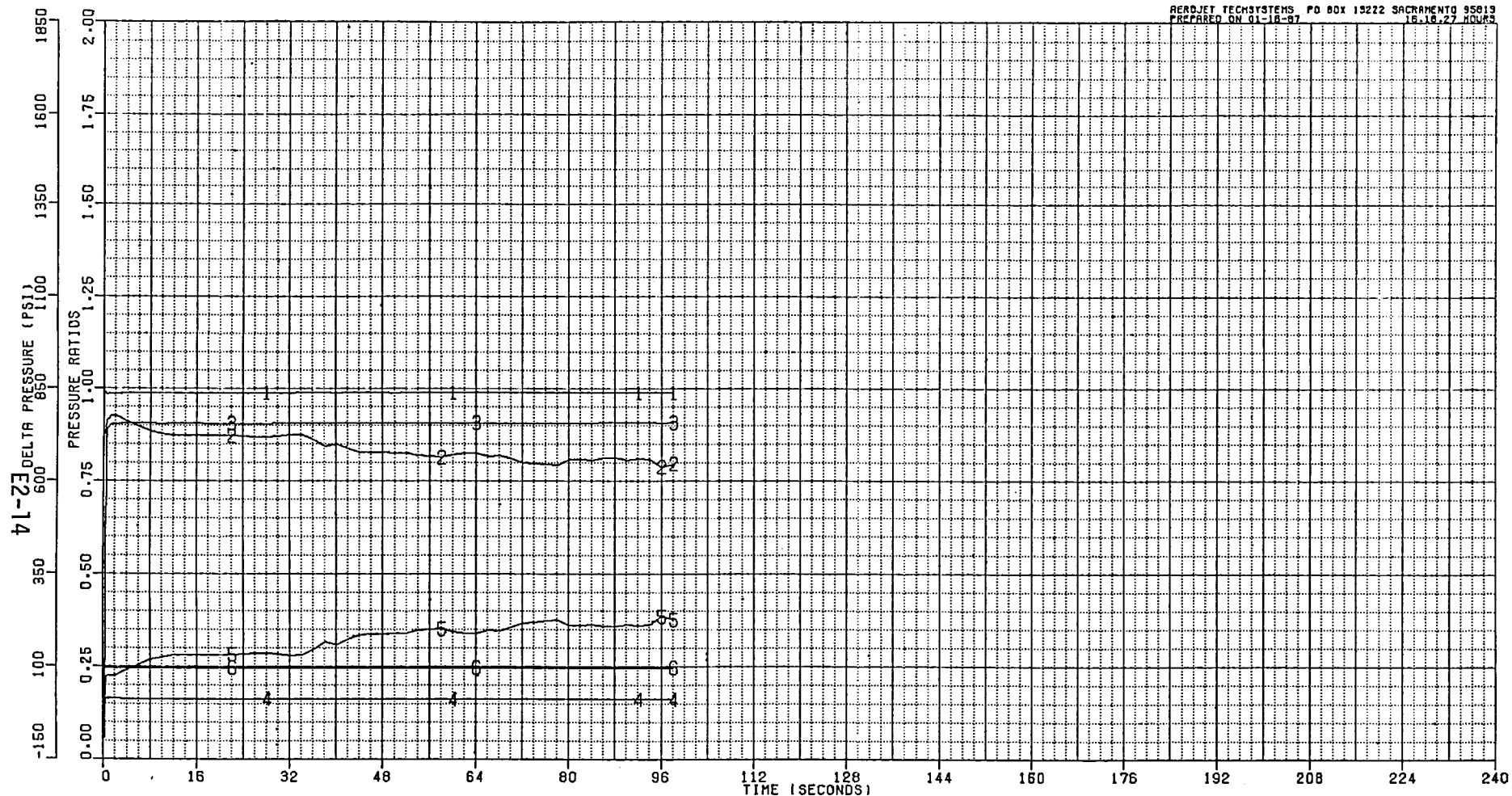


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F



COOLANT OUTLET TEMPERATURES VS TIME TEST NO. 2427-936-A6-115

TEST DATE 02-24-84 1617 HOURS AVERAGED DATA

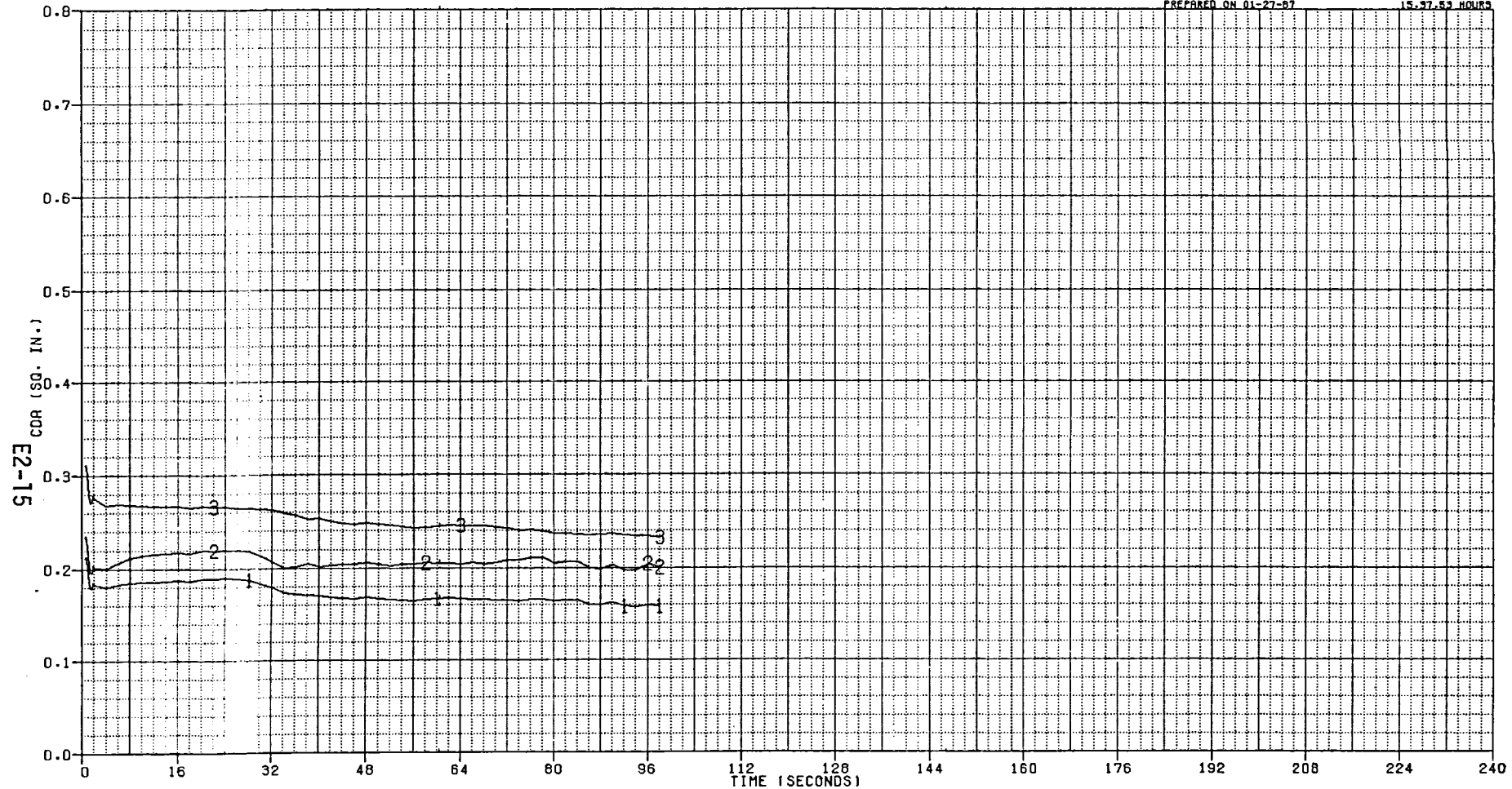


- 1 PRTR
- 2 PRT6
- 3 PRTSC
- 4 DPTR
- 5 DPT6
- 6 DPTSM

PSI
PSI
PSI



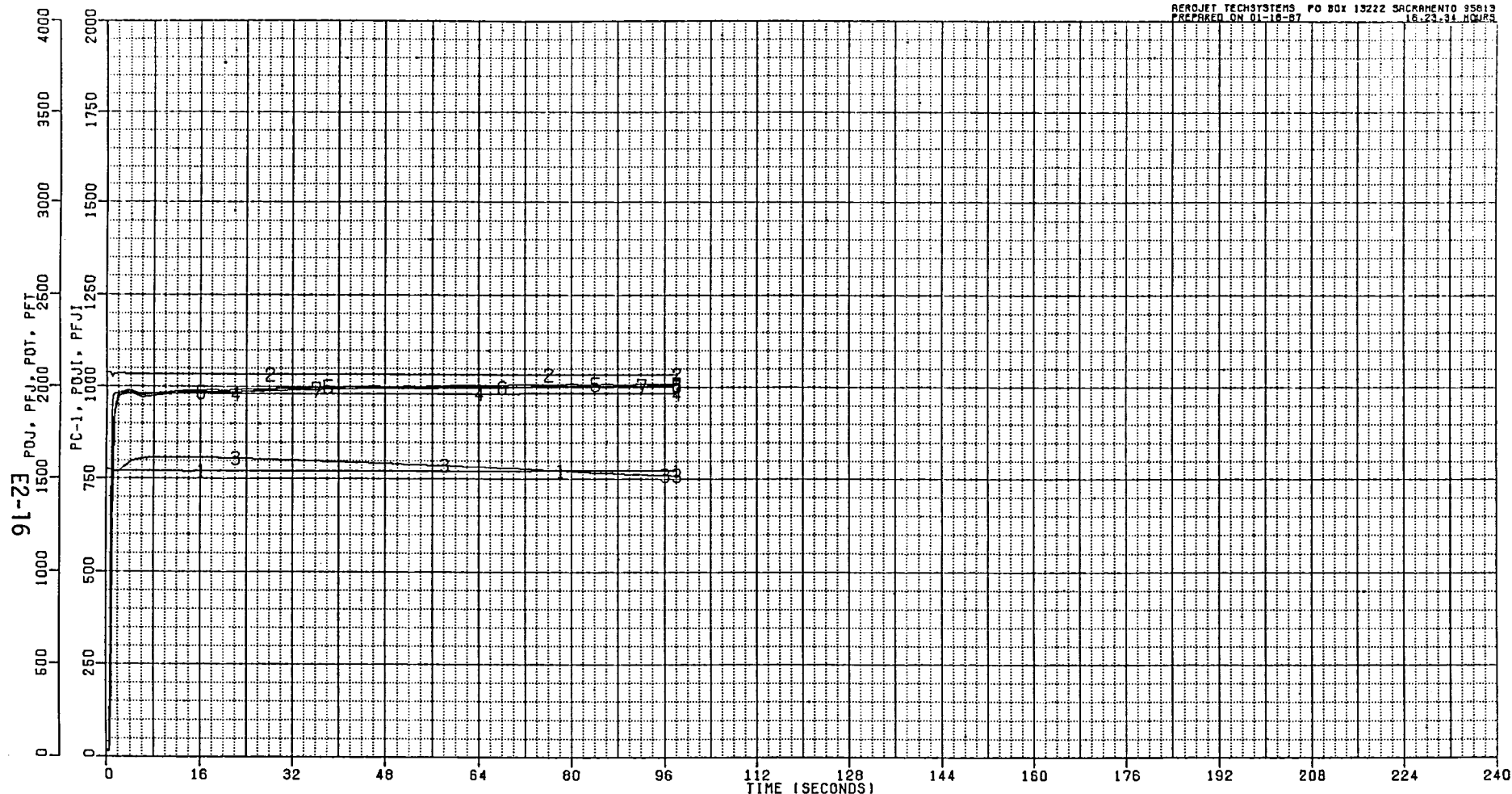
TURBINE BUILD-UP DATA VS TIME
TEST NO. 2427-936-A6-115
CHAMBER PRESSURE DROPS AND RATIOS
TEST DATE 02-24-84 1617 HOURS AVERAGED DATA



1 NA1 SQ. IN.
2 NA2 SQ. IN.
3 COR

INJECTOR CALCULATIONS VS TIME
TEST NO. RLB6-936-115
NOZZLE AREA CHANGE
TEST DATE 02-24-84 1617 HOURS AVERAGED DATA

AEROJET
TechSystems
COMPANY



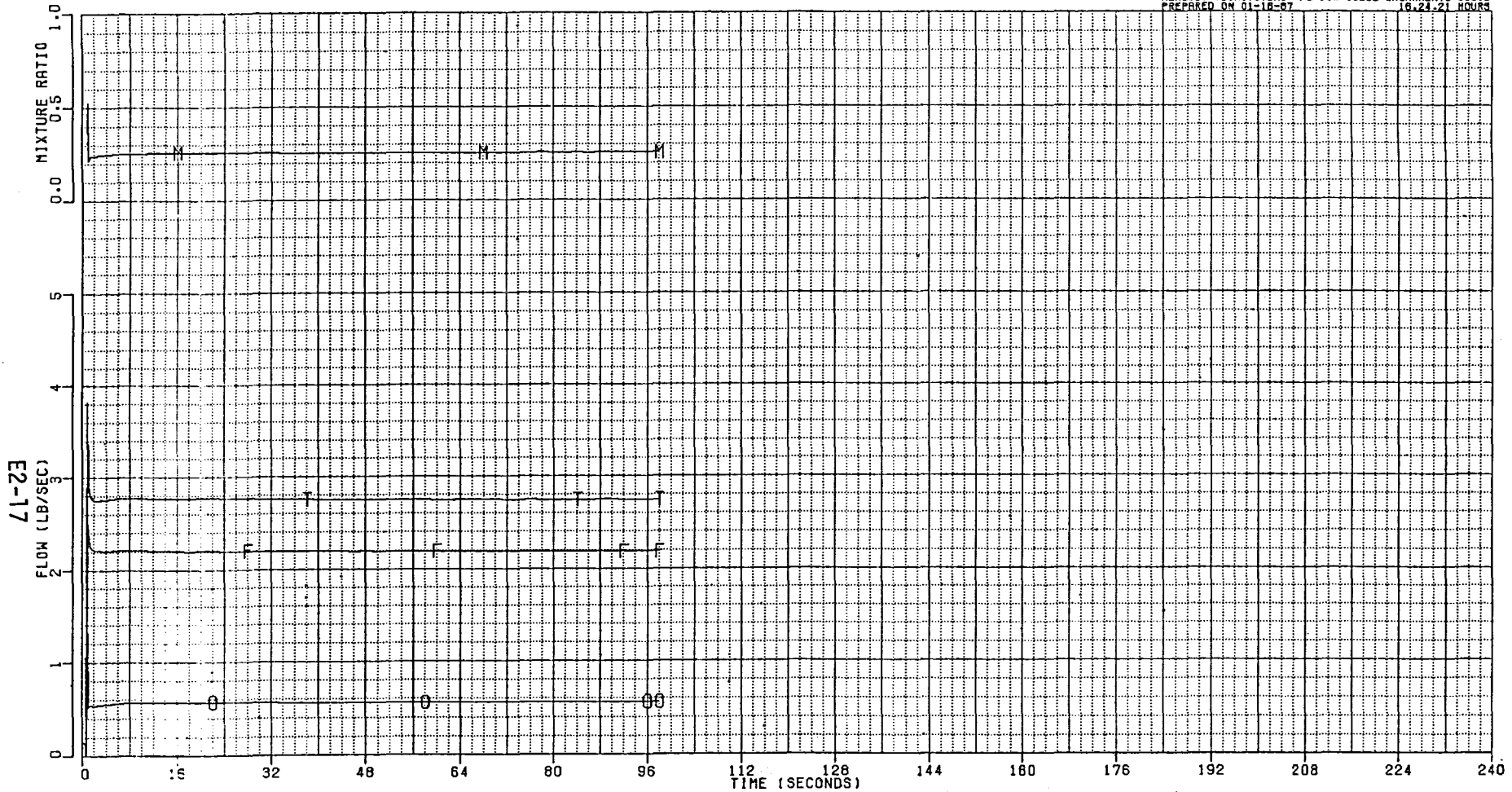
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95613
 PREPARED ON 01-18-87 18:23:31 HOURS

- | | |
|--------|------|
| 1 POT | PSIA |
| 2 PFT | PSIA |
| 3 POJ | PSIA |
| 4 PFJ | PSIA |
| 5 PC-1 | PSIA |
| 6 POJI | PSIA |
| 7 PFJI | PSIA |

AEROJET
TechSystems
 COMPANY

MEASURED PRESSURES VS TIME
 TEST NO. 2427-936-A6-117

TEST DATE 02-29-84 1058 HOURS AVERAGED DATA

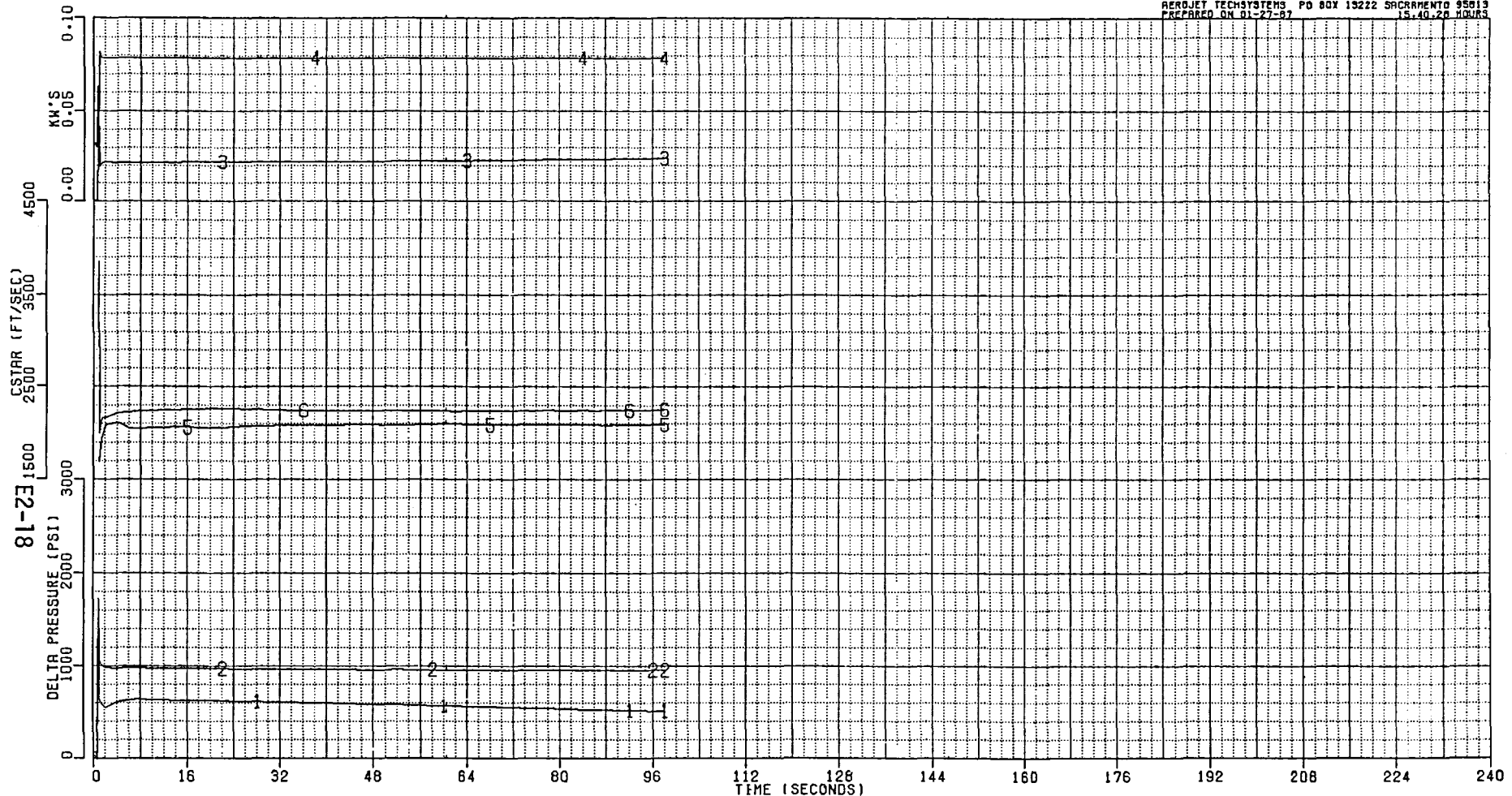


F WF LES/SEC
 W WOX LES/SEC
 T WTOT LES/SEC
 M MR

INJECTOR FLOW VS TIME
 TEST NO. 2427-936-A6-117

TEST DATE 02-29-84 1058 HOURS AVERAGED DATA

AEROJET
 TechSystems
 COMPANY

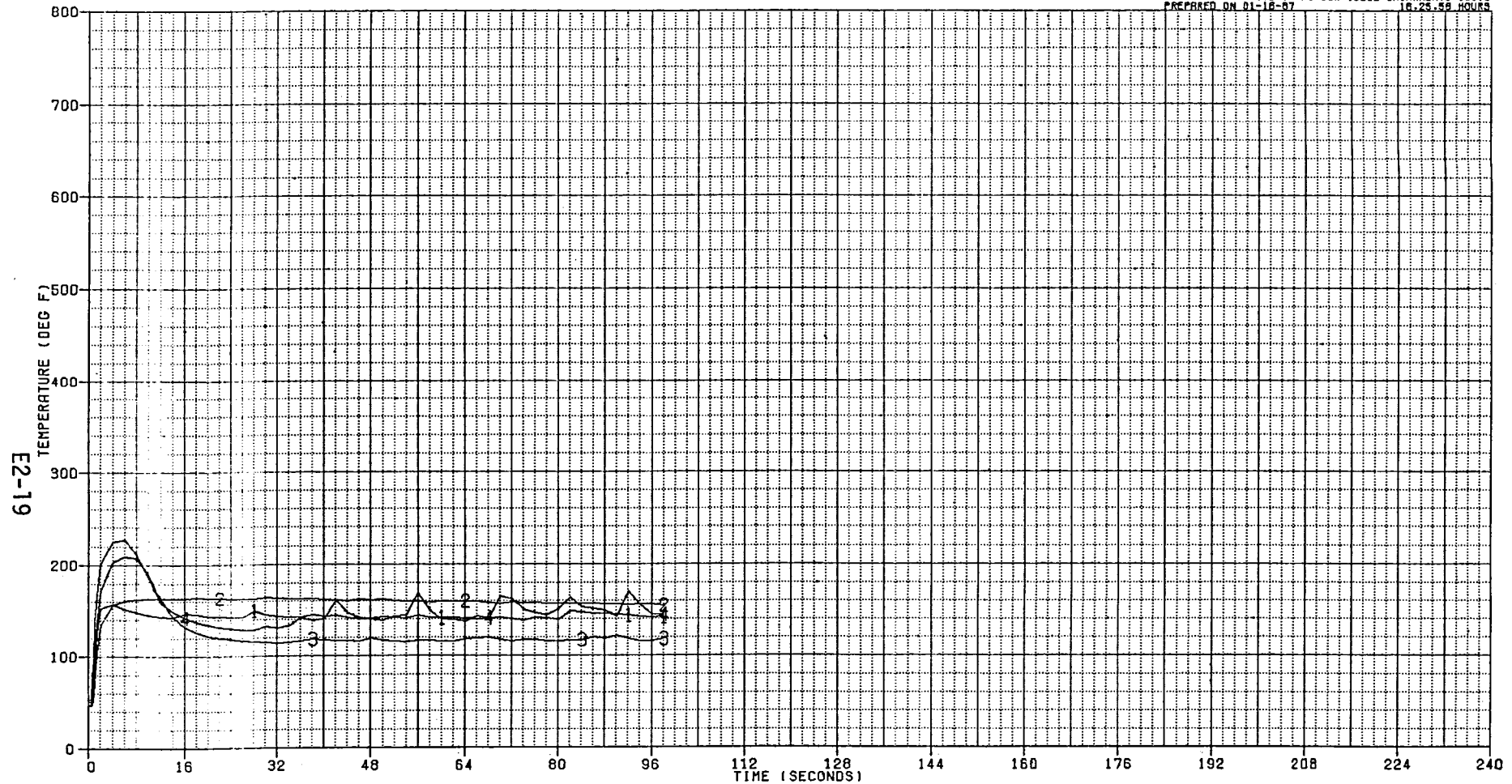


- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ
- 4 KWFJ
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLB6-936-117

TEST DATE 02-29-84 1058 HOURS AVERAGED DATA

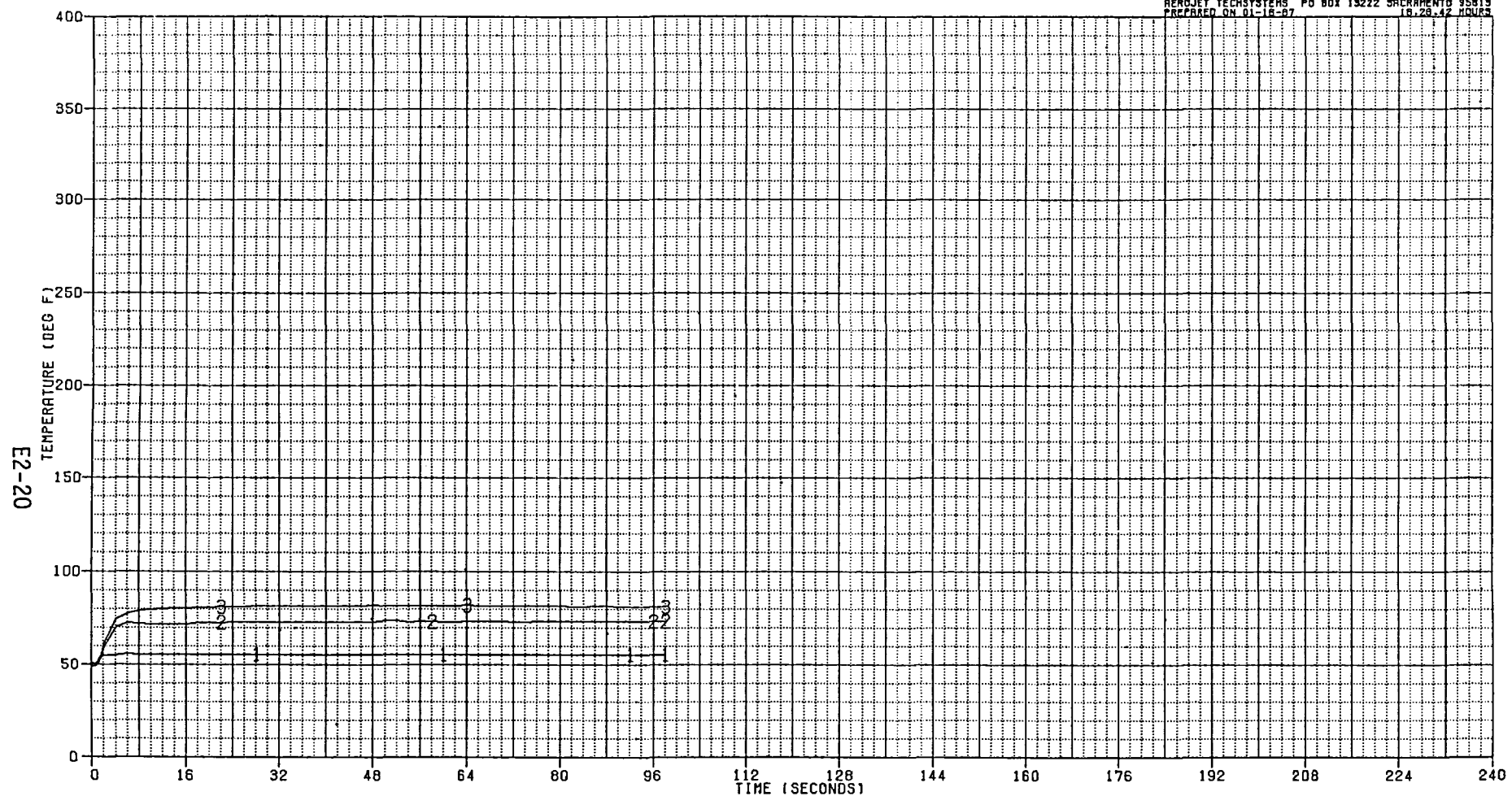




1 TC-7 DEG F
 2 TC-10 DEG F
 3 TC-11 DEG F
 4 TC-12 DEG F

AEROJET
TechSystems
 COMPANY

GAS SIDE WALL TEMPERATURES VS TIME
 TEST NO. 2427-936-A6-117
 BARREL DATA
 TEST DATE 02-29-84 1058 HOURS AVERAGED DATA



E2-20

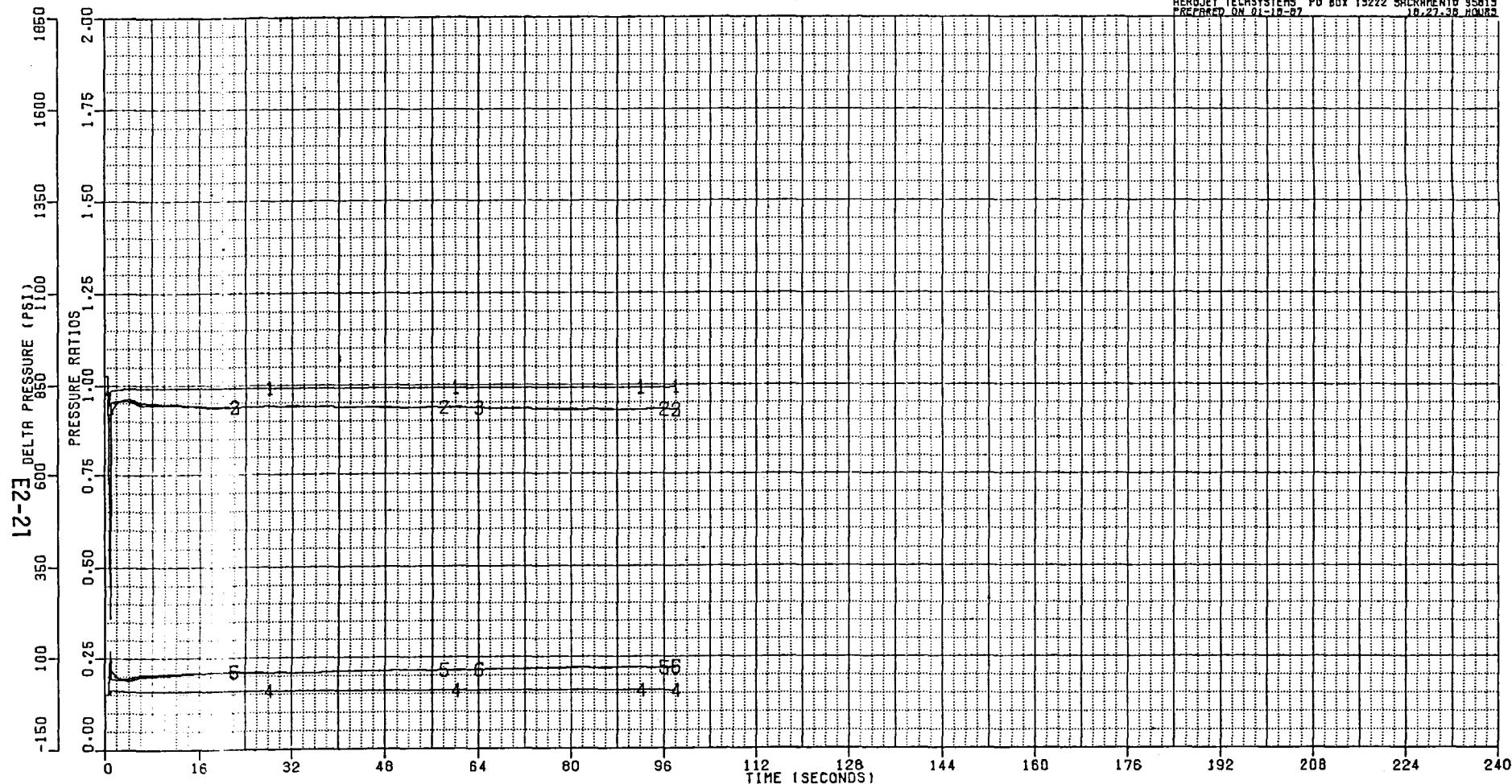
- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F



COOLANT OUTLET TEMPERATURES VS TIME

TEST NO. 2427-936-A6-117

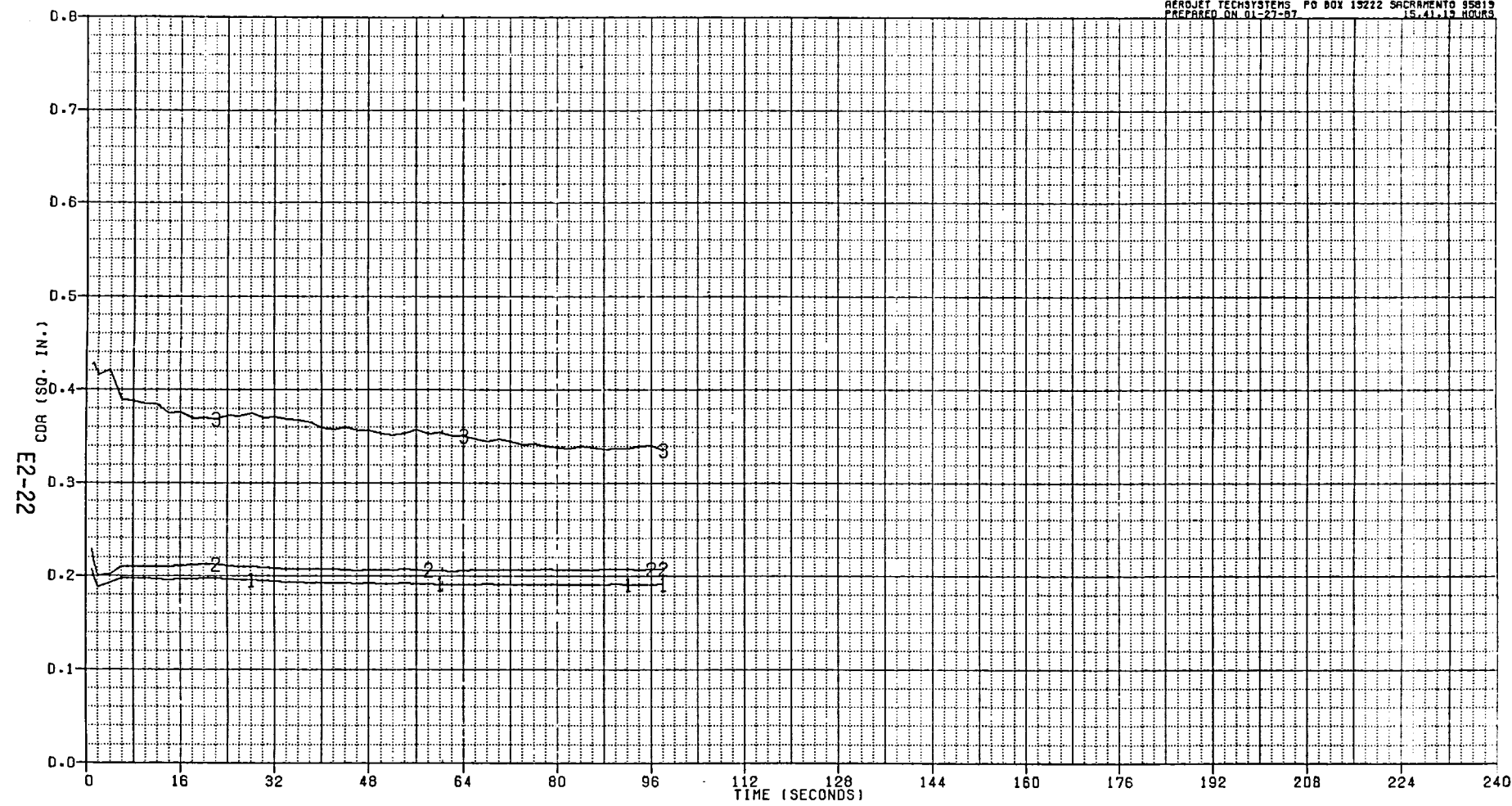
TEST DATE 02-29-84 1058 HOURS AVERAGED DATA



- 1 PRTR
- 2 PRTS
- 3 PRISC
- 4 DPTR
- 5 DPTS
- 6 DPTSM

AEROJET
TechSystems
 COMPANY

TURBINE BUILD-UP DATA VS TIME
 TEST NO. 2427-936-A6-117
 CHAMBER PRESSURE DROPS AND RATIOS
 TEST DATE 02-29-84 1058 HOURS AVERAGED DATA

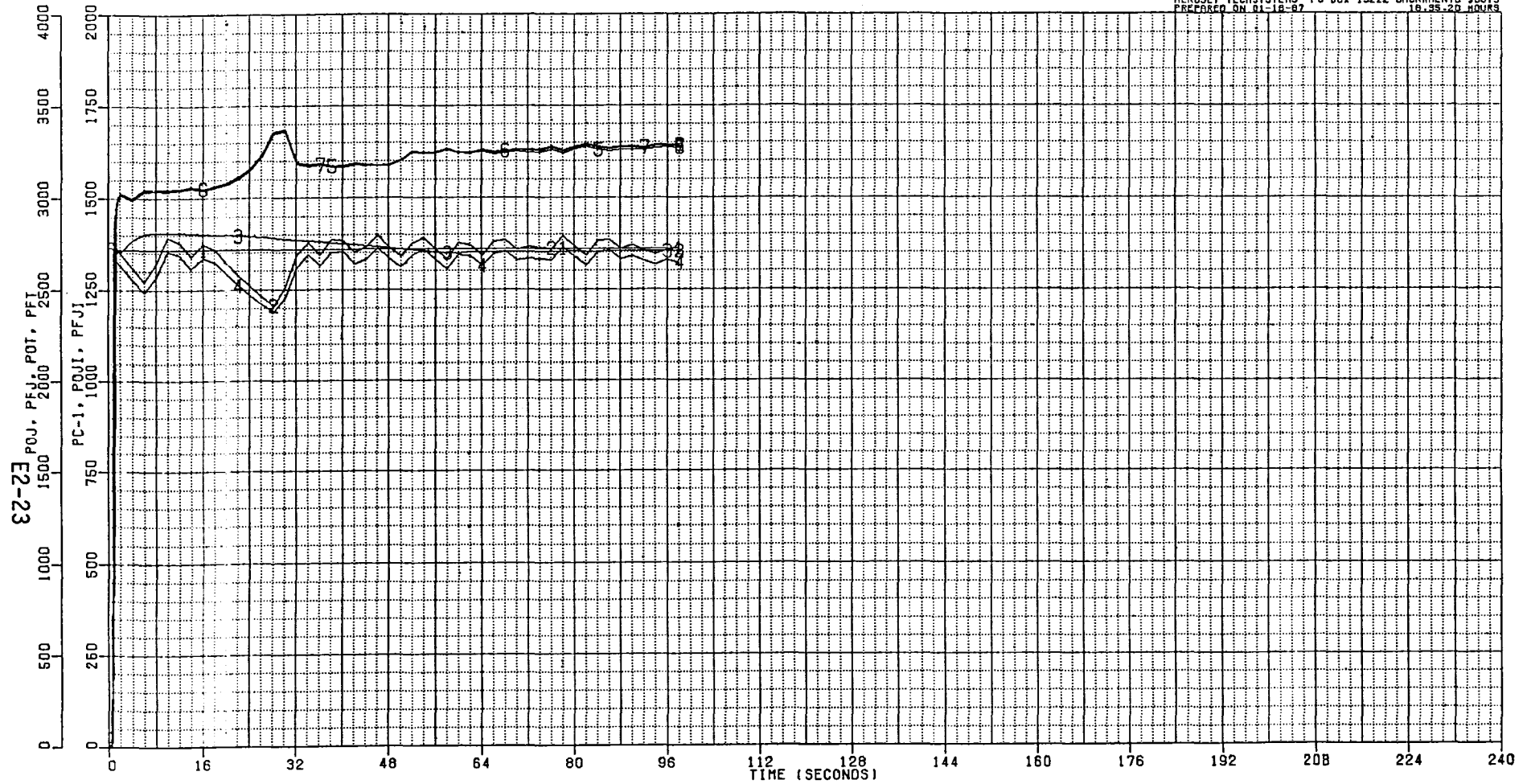


1 NR1
2 NR2
3 CDR

SQ.IN.
SQ.IN.

INJECTOR CALCULATIONS VS TIME
TEST NO. RLB6-936-117
NOZZLE AREA CHANGE
TEST DATE 02-29-84 1058 HOURS AVERAGED DATA



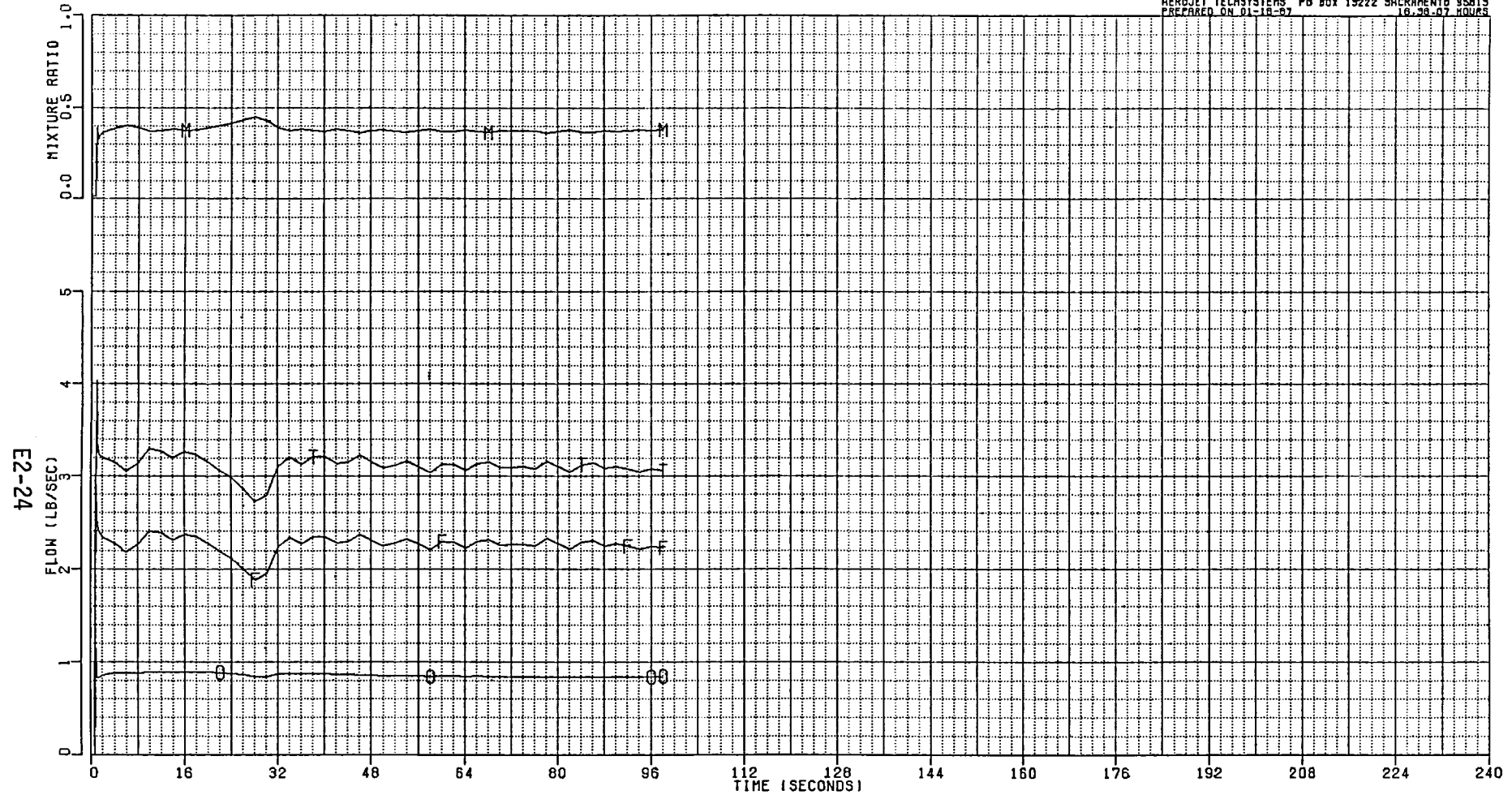


- | | |
|--------|------|
| 1 POT | PSIA |
| 2 PFT | PSIA |
| 3 POJ | PSIA |
| 4 PFJ | PSIA |
| 5 PC-1 | PSIA |
| 6 POJI | PSIA |
| 7 PFJI | PSIA |



MEASURED PRESSURES VS TIME
 TEST NO. 2427-936-A6-119

TEST DATE 02-29-84 1410 HOURS AVERAGED DATA

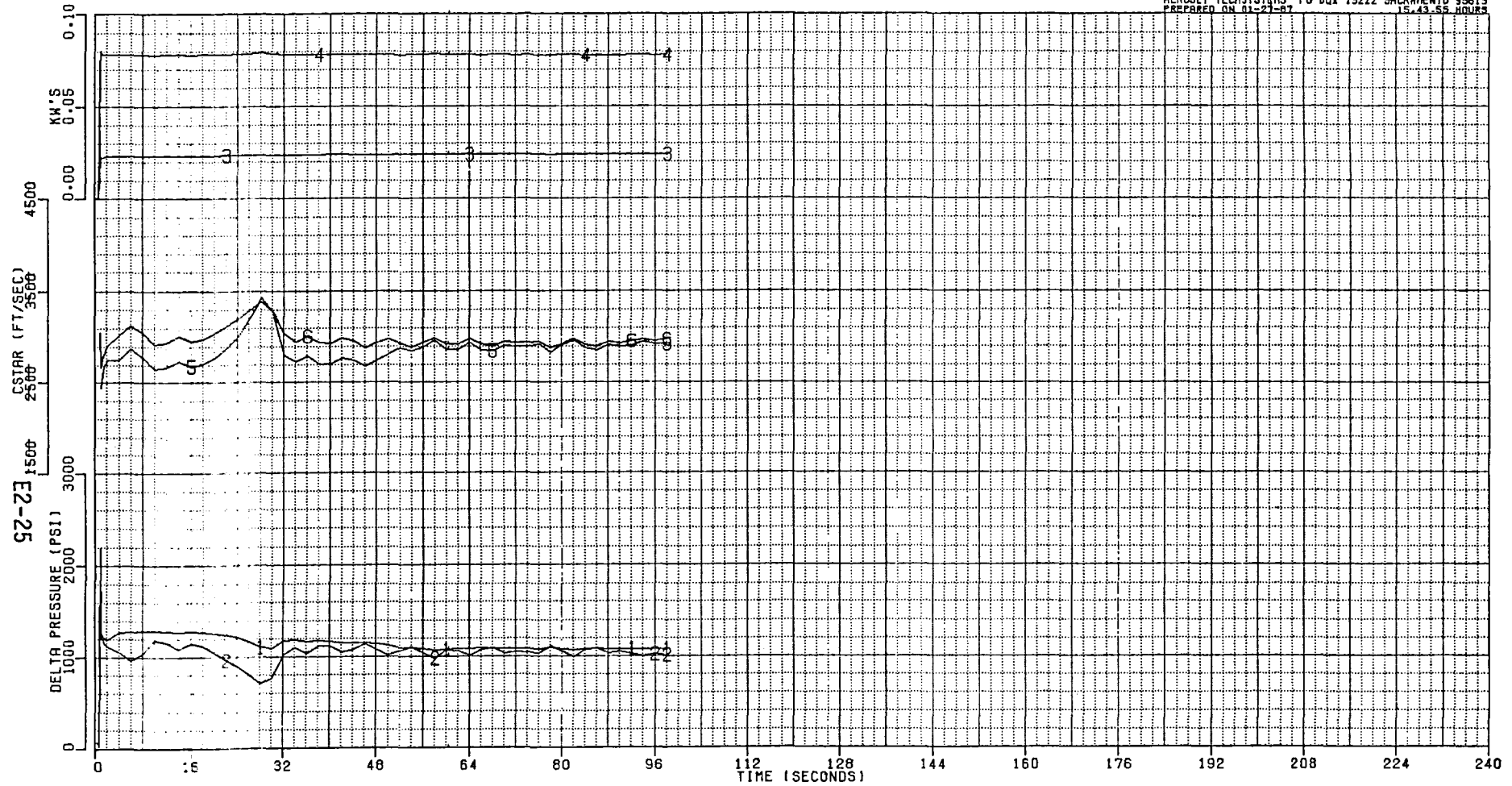


F WF LBS/SEC
 O WO LBS/SEC
 T TOT LBS/SEC
 M MR

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TechSystems
 COMPANY

INJECTOR FLOW VS TIME
 TEST NO. 2427-936-A6-119

TEST DATE 02-29-84 1410 HOURS AVERAGED DATA

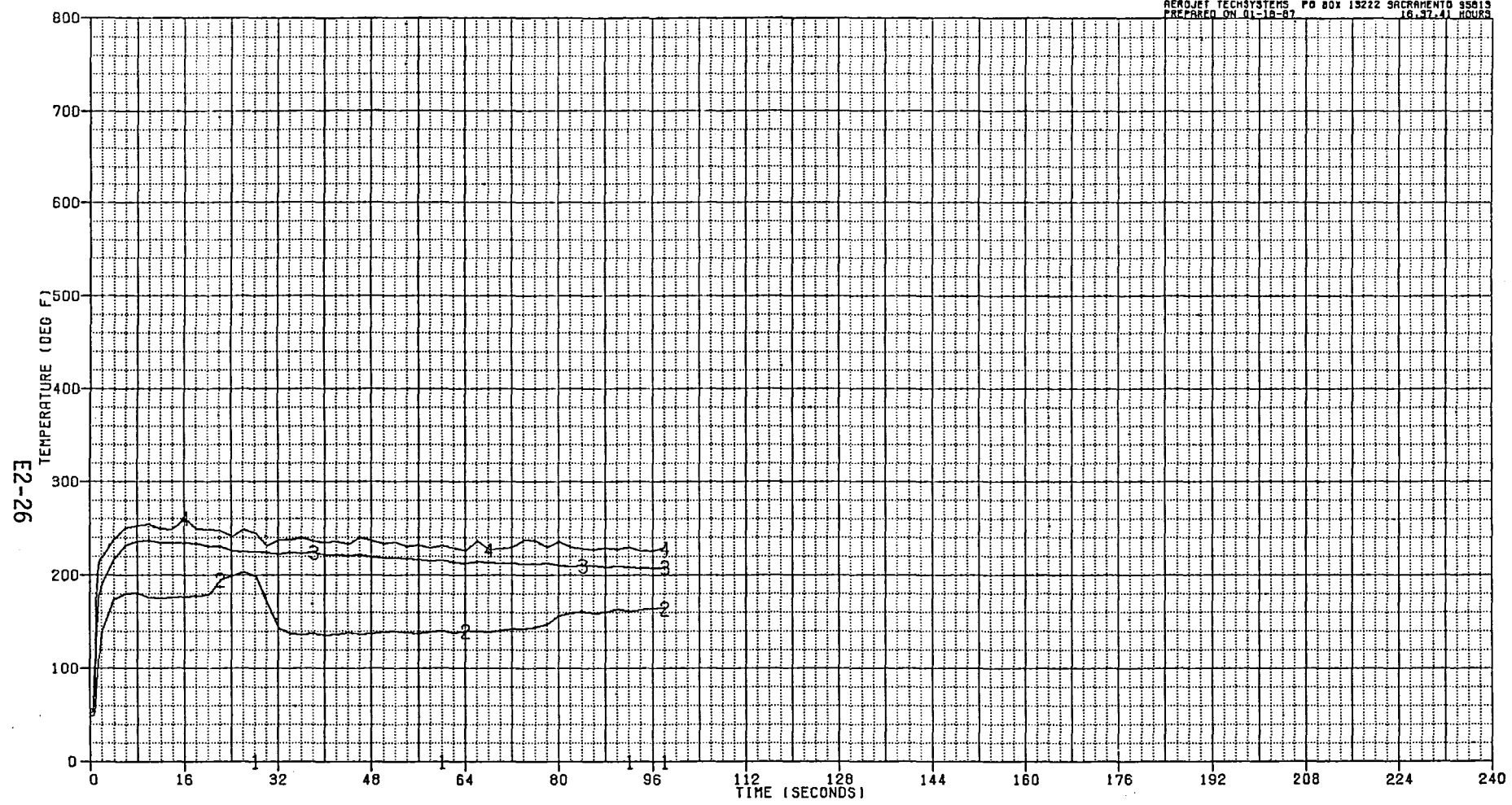


1 DPOJ PS:
 2 DPFJ PS:
 3 KWOJ
 4 KWFJ
 5 CSTRPB FT SEC
 6 CSTAR FT SEC

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 COMPANY

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLB6-936-119

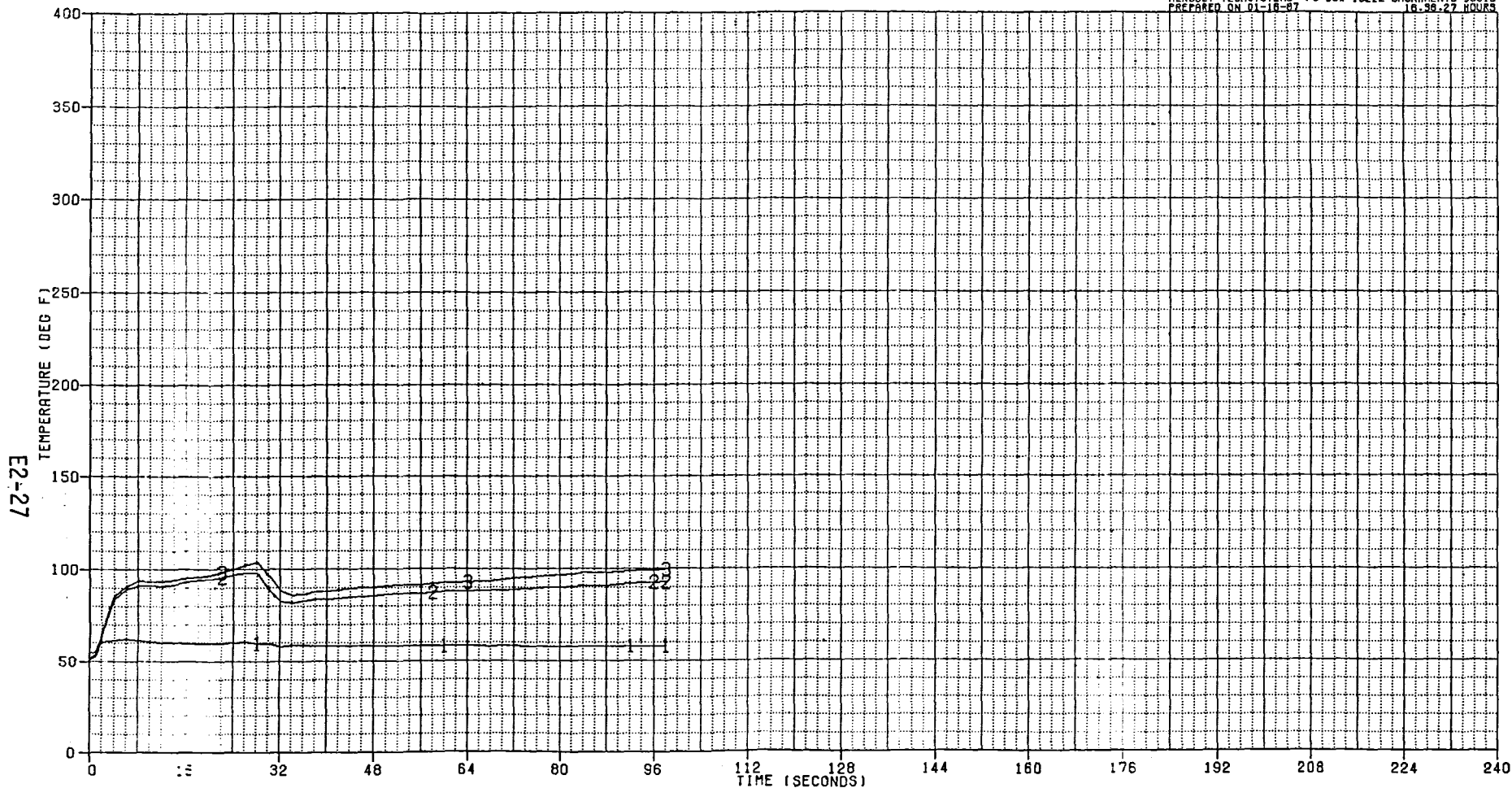
TEST DATE 02-29-84 1410 HOURS AVERAGED DATA



- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME
TEST NO. 2427-936-A6-119
BARREL DATA
TEST DATE 02-29-84 1410 HOURS AVERAGED DATA



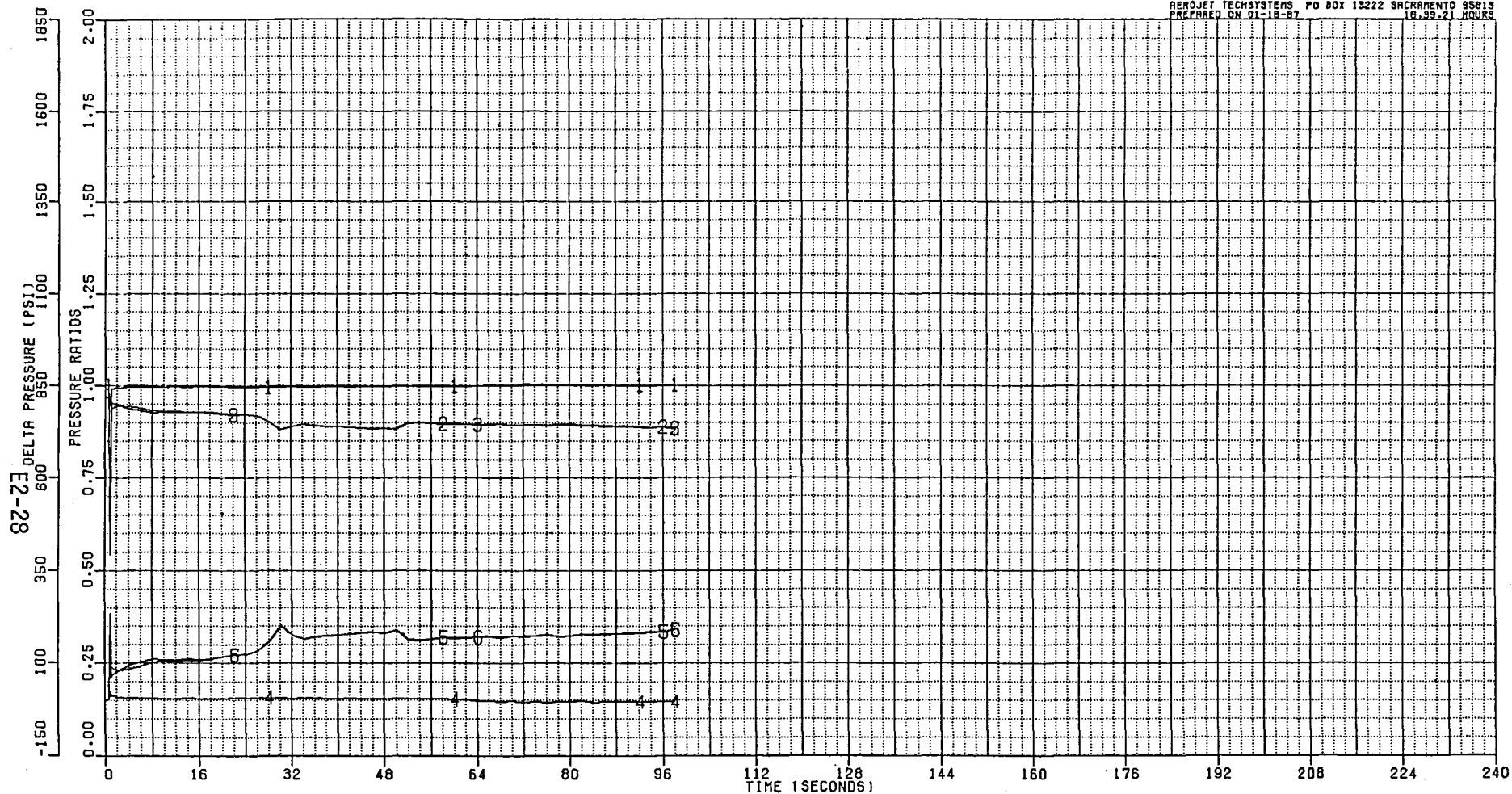


1 TWC-2 DEG F
 2 TWC-26 DEG F
 3 TWC-27 DEG F
 4 TWC-31 DEG F
 5 TWC-32 DEG F

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TechSystems
 COMPANY

COOLANT OUTLET TEMPERATURES VS TIME
 TEST NO. 2427-936-A6-119

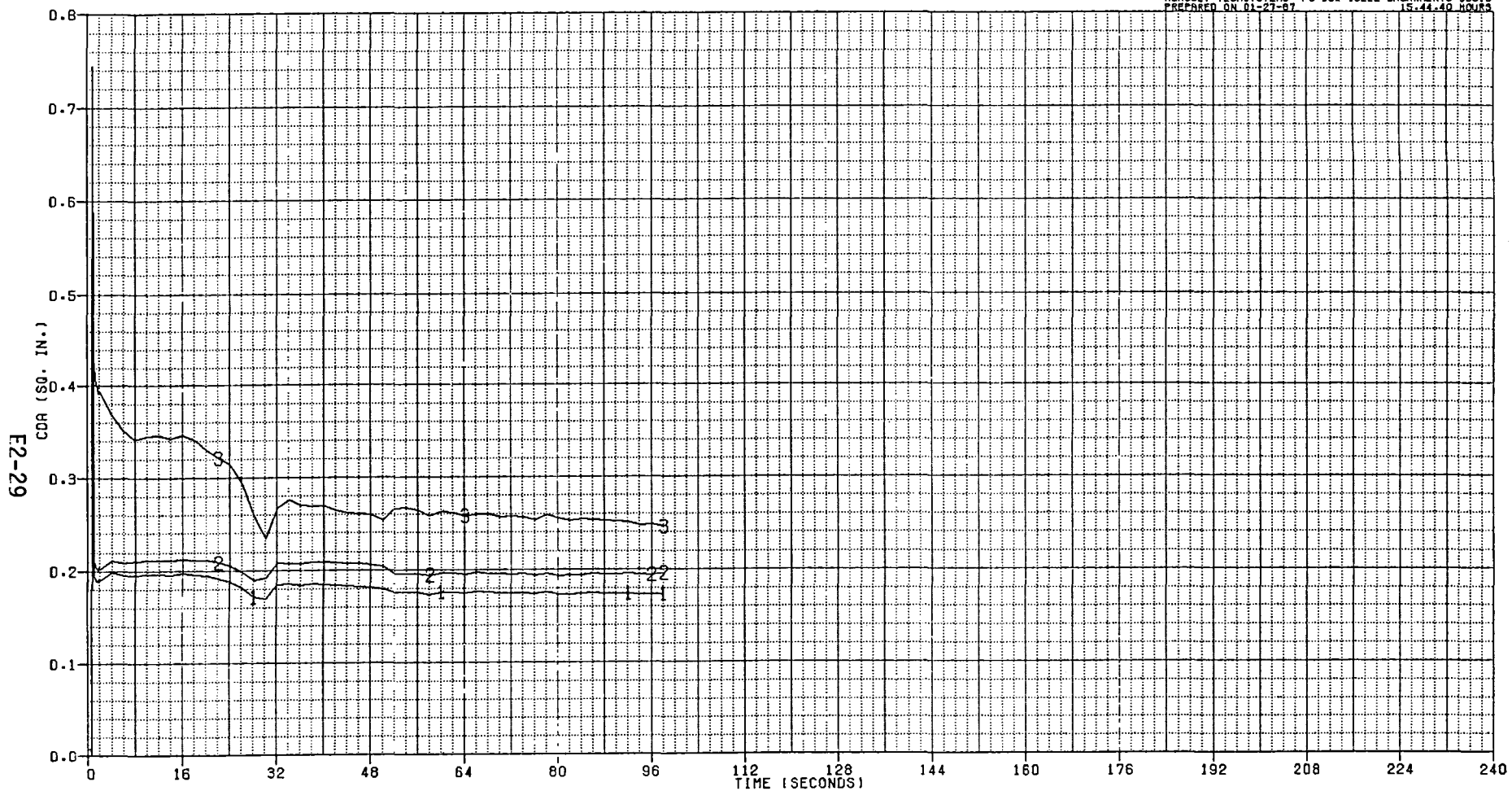
TEST DATE 02-29-84 1410 HOURS AVERAGED DATA



AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813
PREPARED ON 01-18-87 18:39:21 HOURS

TURBINE BUILD-UP DATA VS TIME
TEST NO. 2427-936-A6-119
CHAMBER PRESSURE DROPS AND RATIOS
TEST DATE 02-29-84 1410 HOURS AVERAGED DATA

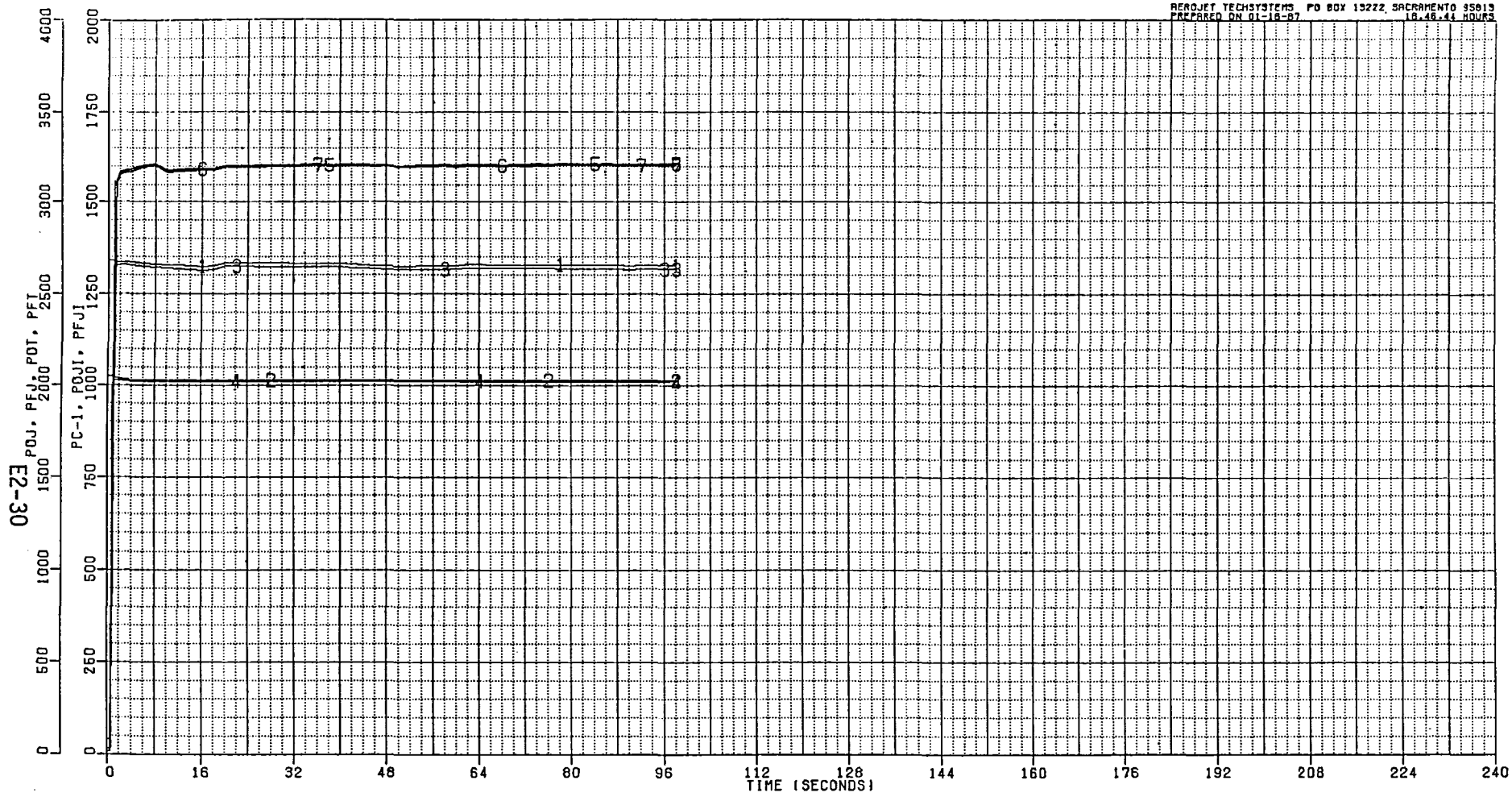
AEROJET
TechSystems
COMPANY



1 NA1 SQ. IN.
 2 NA2 SQ. IN.
 3 CDA

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLB6-936-119
 NOZZLE AREA CHANGE
 TEST DATE 02-29-84 1410 HOURS AVERAGED DATA



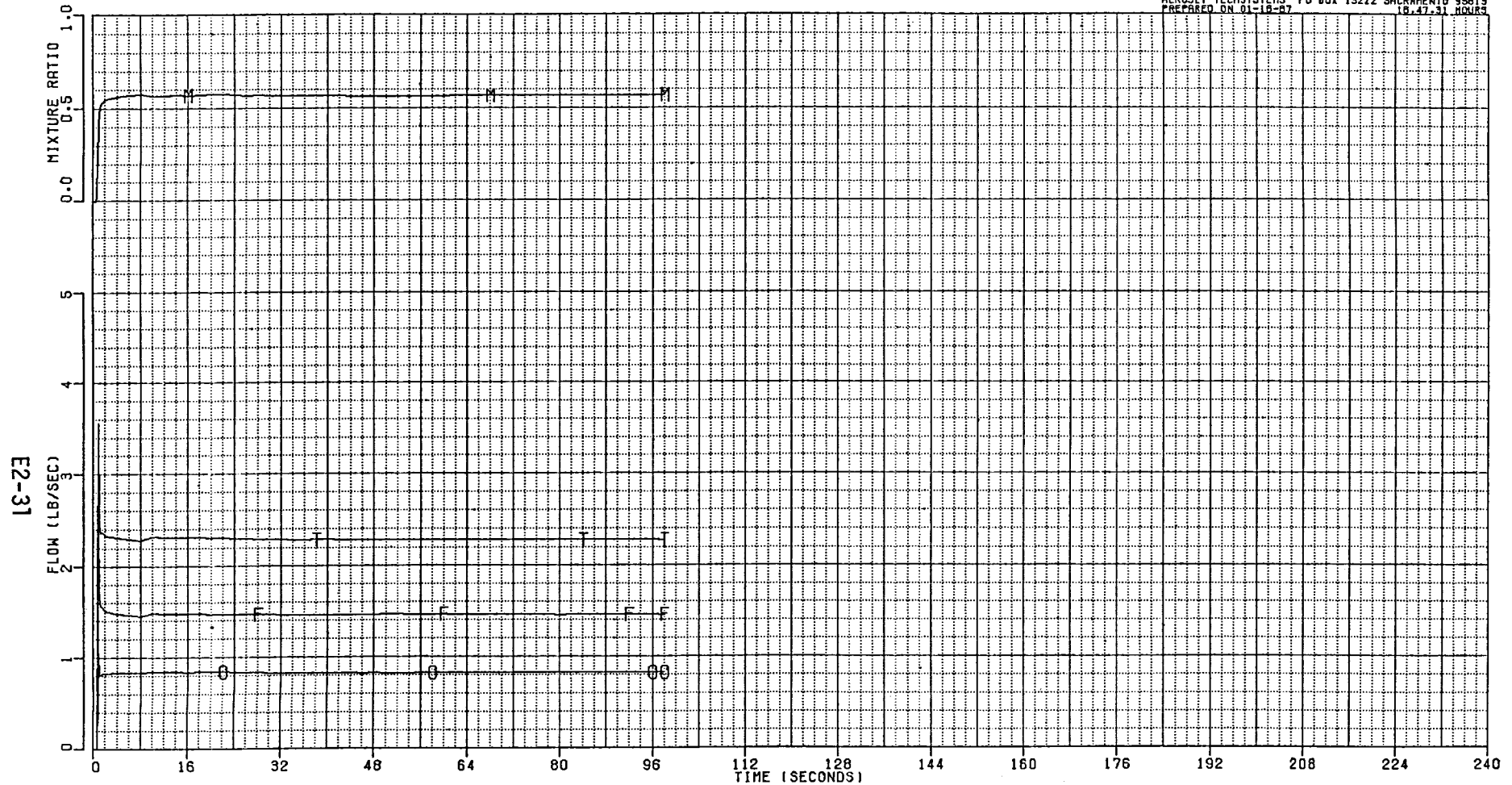


1 POT PSIA
2 PFT PSIA
3 POJ PSIA
4 PFJ PSIA
5 PC-1 PSIA
6 POJI PSIA
7 PFJI PSIA

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COMPANY

MEASURED PRESSURES VS TIME
TEST NO. 2427-936-A6-121

TEST DATE 02-29-84 1519 HOURS AVERAGED DATA



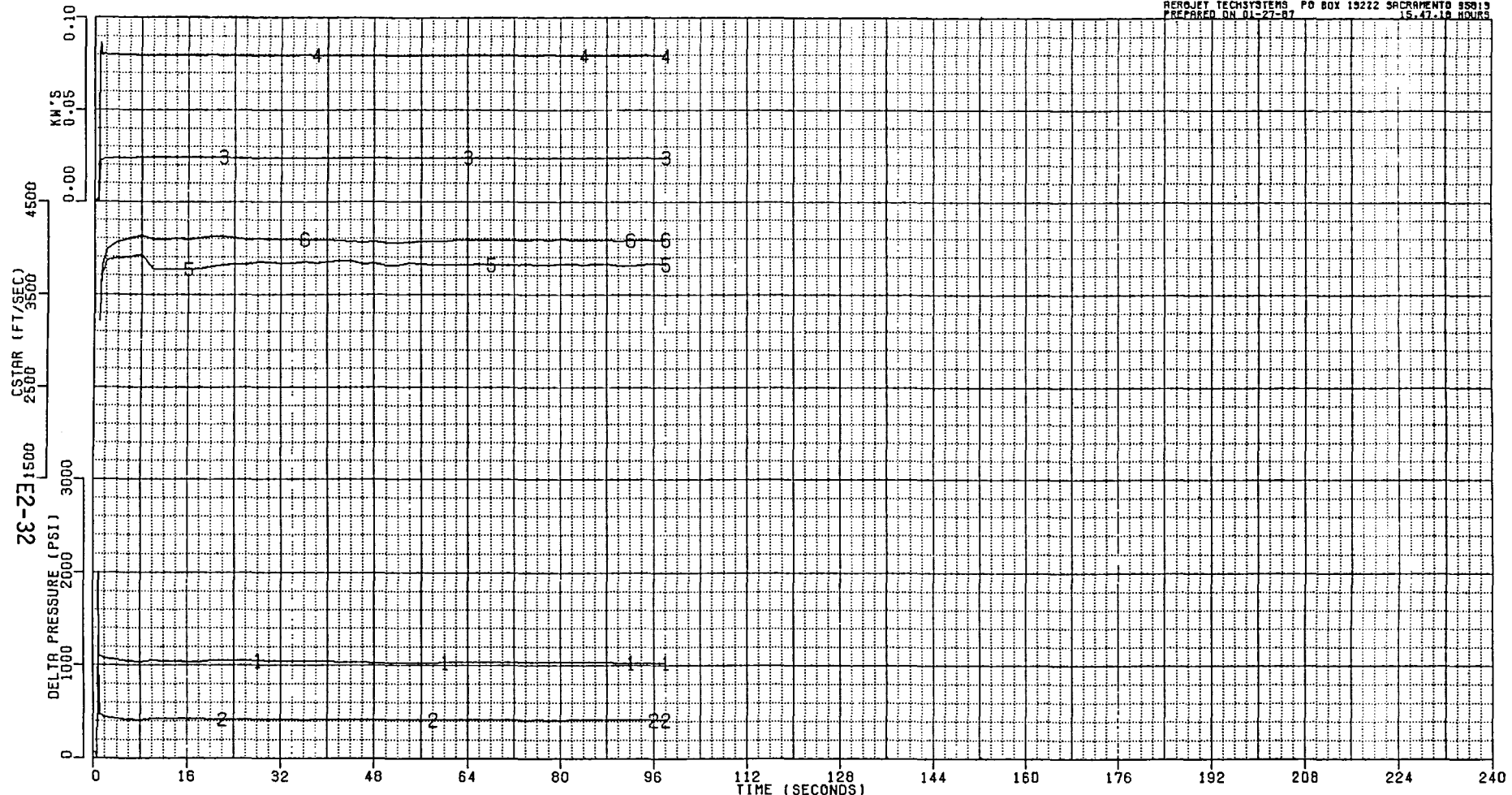
F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR

INJECTOR FLOW VS TIME
 TEST NO. 2427-936-A6-121

TEST DATE 02-29-84 1519 HOURS AVERAGED DATA

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AEROJET TECHSYSTEMS, PO BOX 15222 SACRAMENTO 95815
 PREPARED ON 01-27-87 15:47:19 HOURS

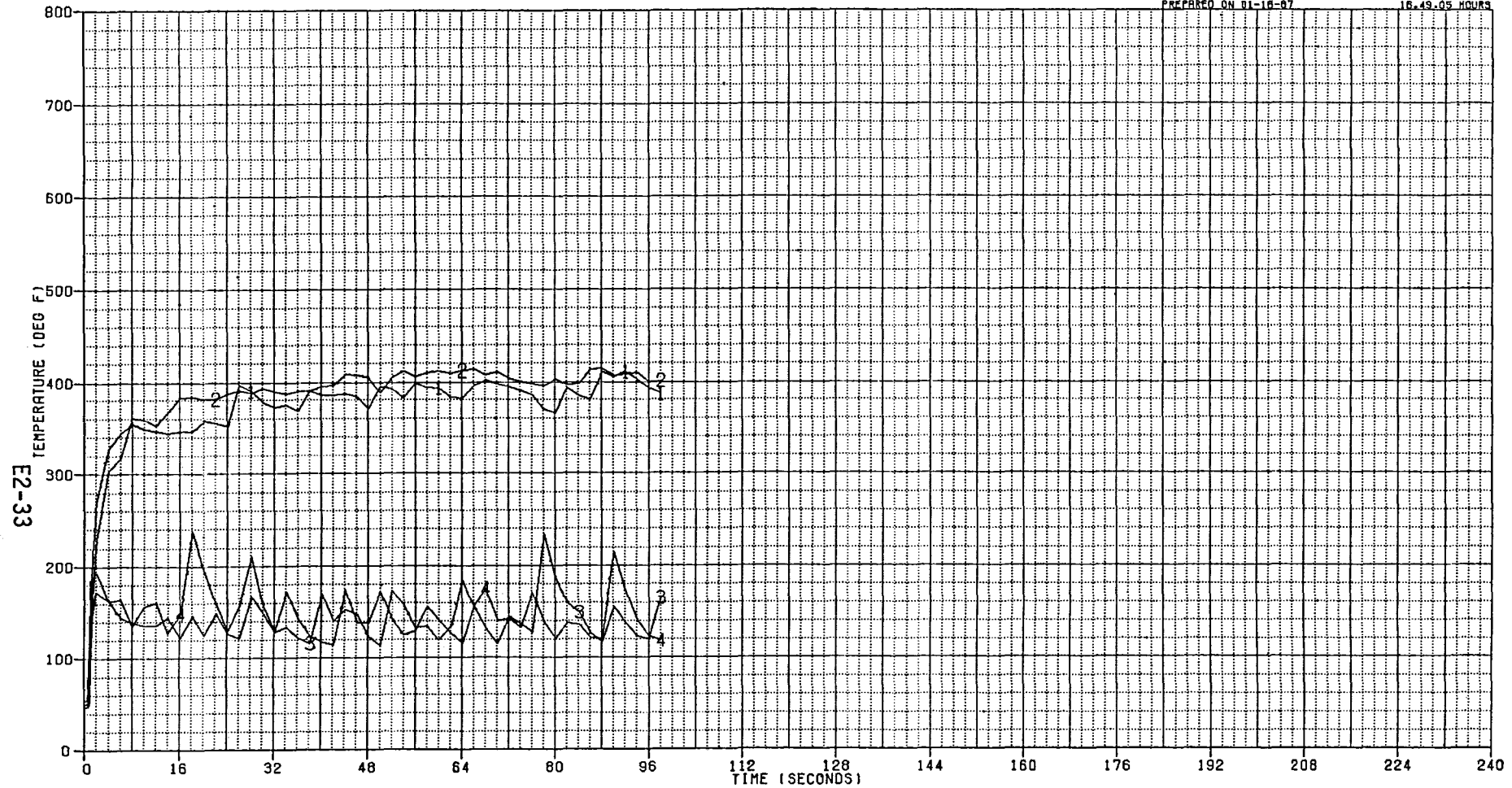


- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ
- 4 KWFJ
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC



INJECTOR CALCULATIONS VS TIME TEST NO. RLB6-936-121

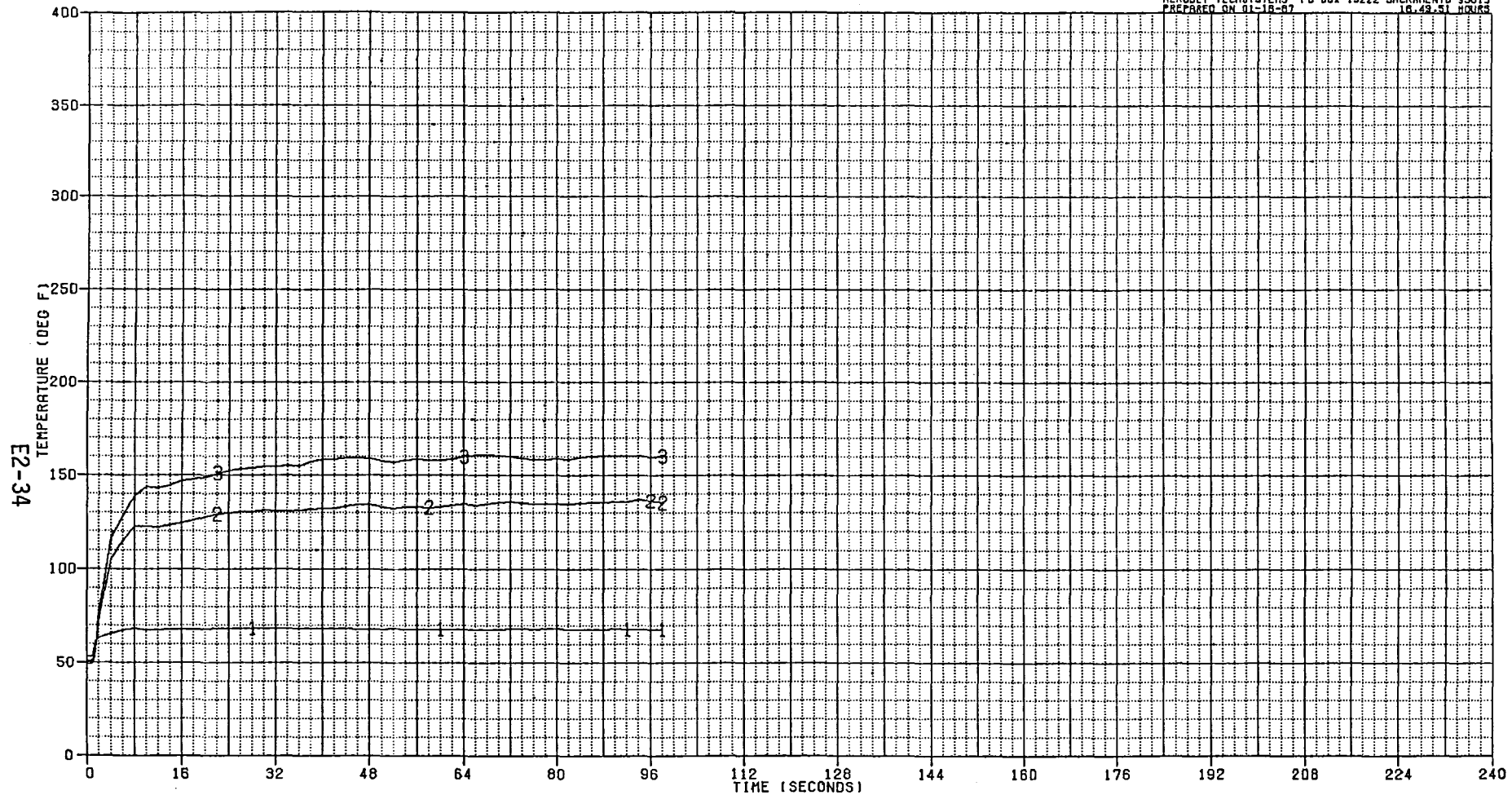
TEST DATE 02-29-84 1519 HOURS AVERAGED DATA



1 TC-7 DEG F
 2 TC-10 DEG F
 3 TC-11 DEG F
 4 TC-12 DEG F

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GAS SIDE WALL TEMPERATURES VS TIME
 TEST NO. 2427-936-A6-121
 BARREL DATA
 TEST DATE 02-29-84 1519 HOURS AVERAGED DATA



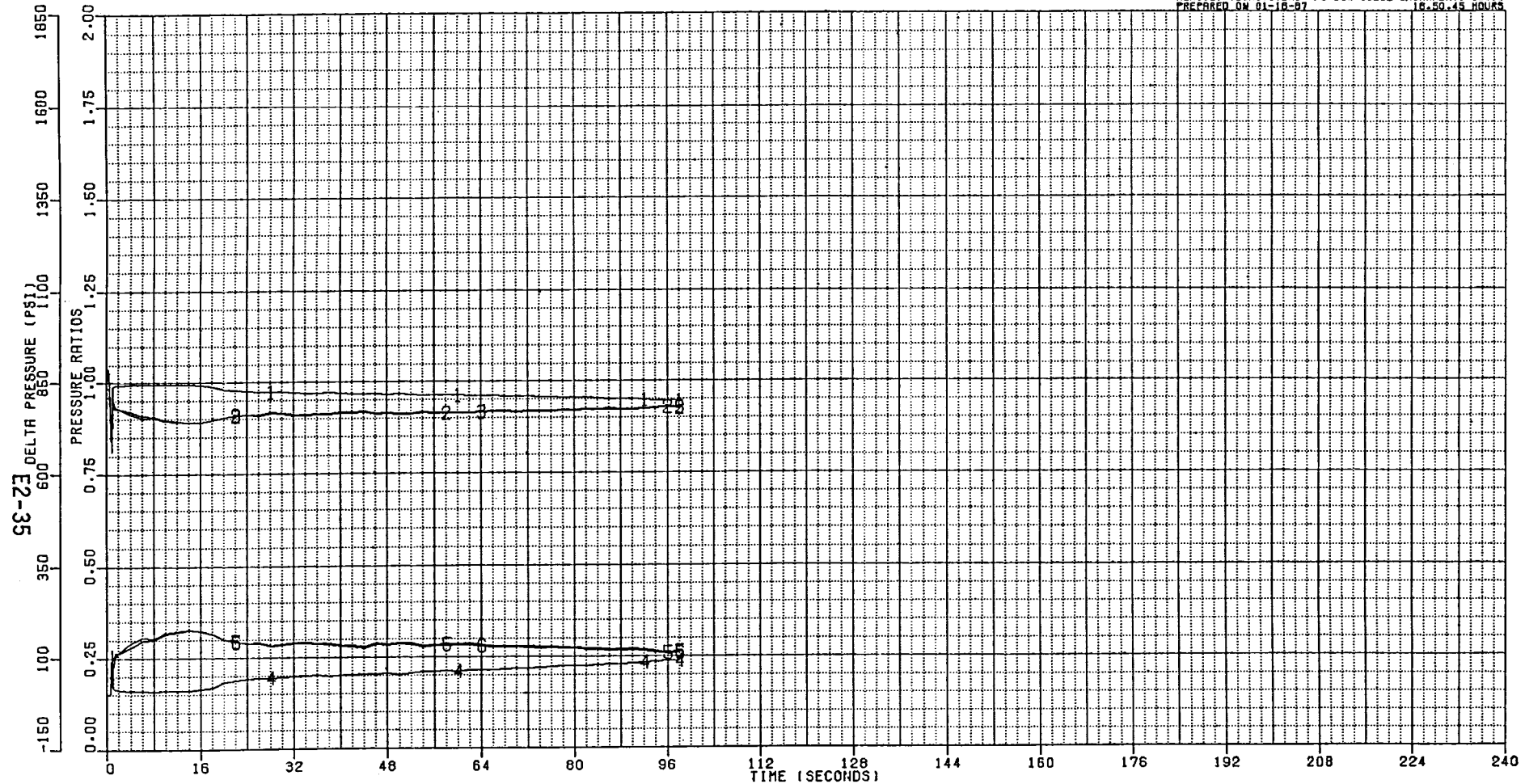
E2-34

- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F



COOLANT OUTLET TEMPERATURES VS TIME
 TEST NO. 2427-936-A6-121

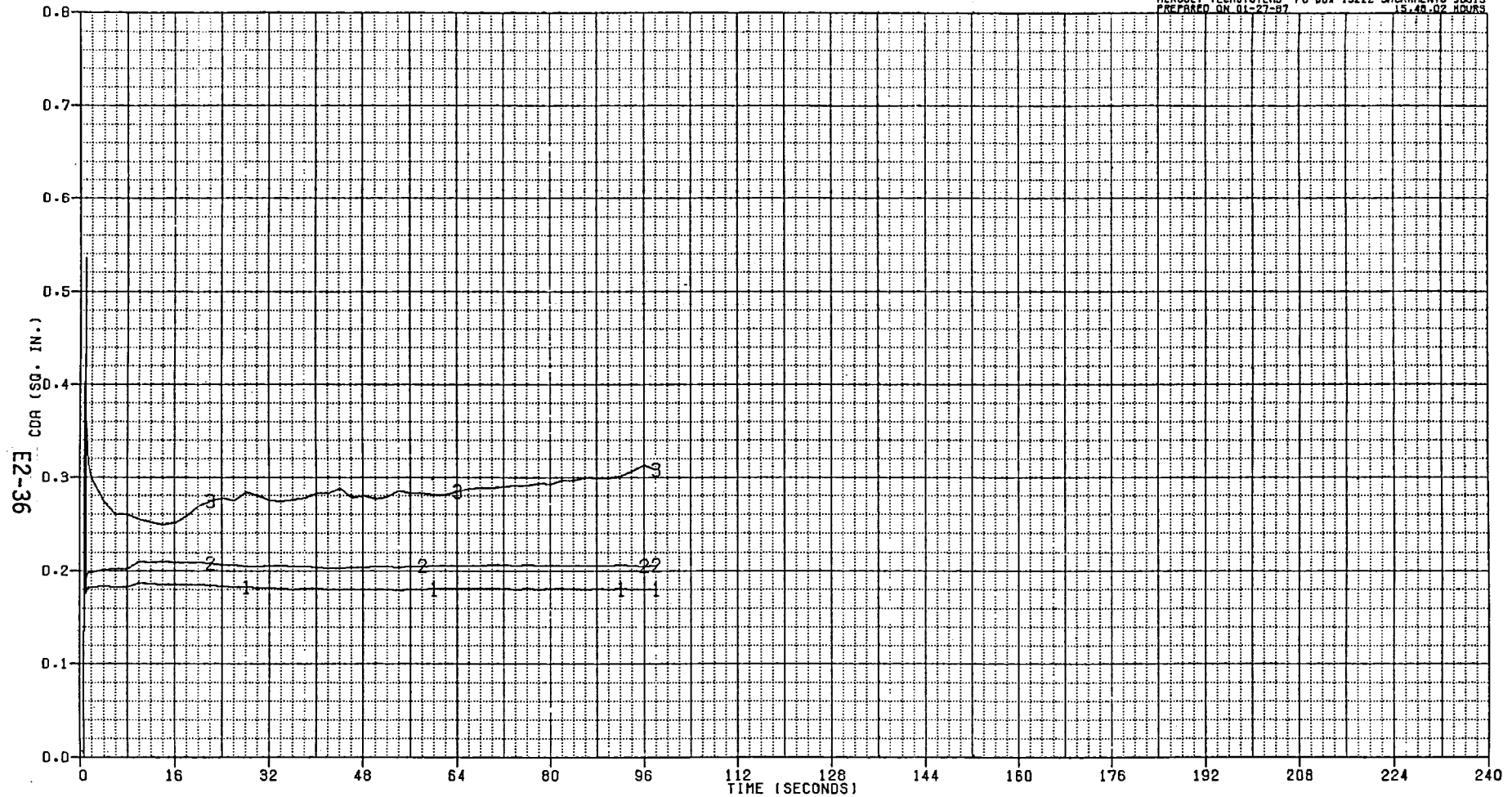
TEST DATE 02-29-84 1519 HOURS AVERAGED DATA



- 1 PRTR PSI
- 2 PRTS PSI
- 3 PRISC PSI
- 4 DPTR PSI
- 5 DPTS PSI
- 6 DPTSM PSI

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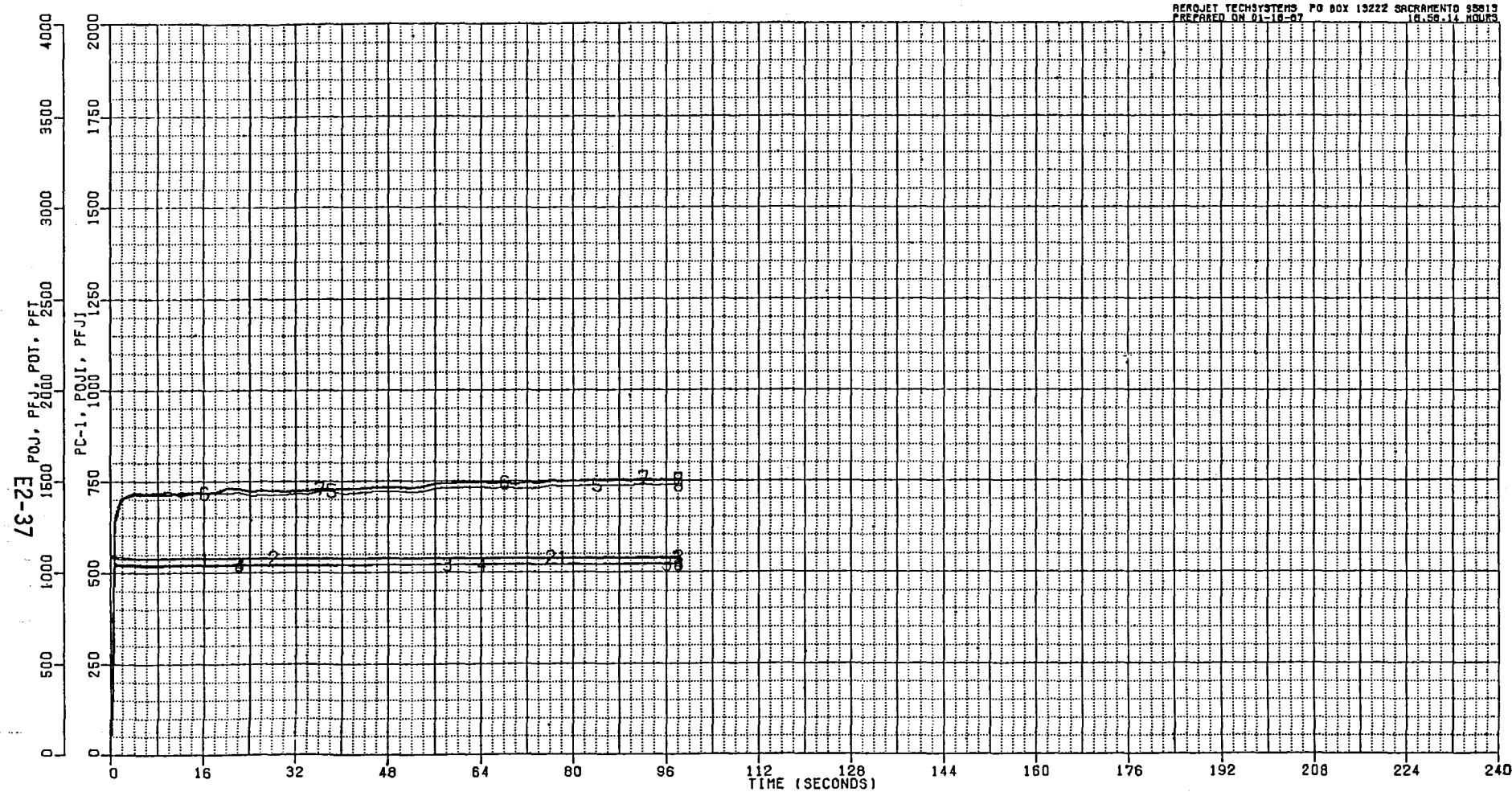
TURBINE BUILD-UP DATA VS TIME
 TEST NO. 2427-936-A6-121
 CHAMBER PRESSURE DROPS AND RATIOS
 TEST DATE 02-29-84 1519 HOURS AVERAGED DATA



1 NA1 SQ. IN.
 2 NA2 SQ. IN.
 3 CDR

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLB6-936-121
 NOZZLE AREA CHANGE
 TEST DATE 02-29-84 1519 HOURS AVERAGED DATA

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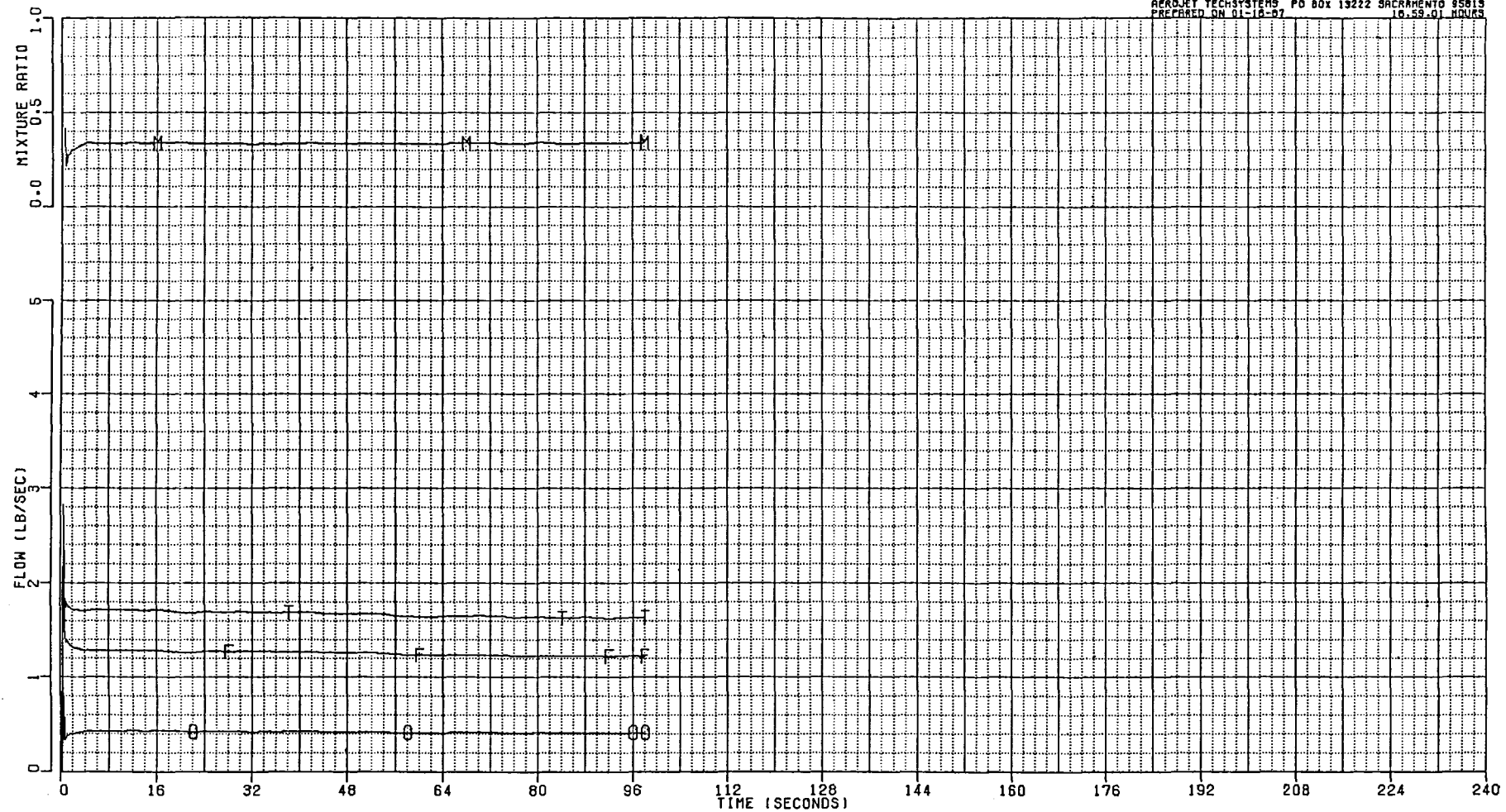
- 1 POT PSIA
- 2 PFT PSIA
- 3 POJ PSIA
- 4 PFJ PSIA
- 5 PC-1 PSIA
- 6 POJI PSIA
- 7 PFJI PSIA



MEASURED PRESSURES VS TIME
TEST NO. 2427-936-A6-125

TEST DATE 03-01-84 1544 HOURS AVERAGED DATA

E2-38

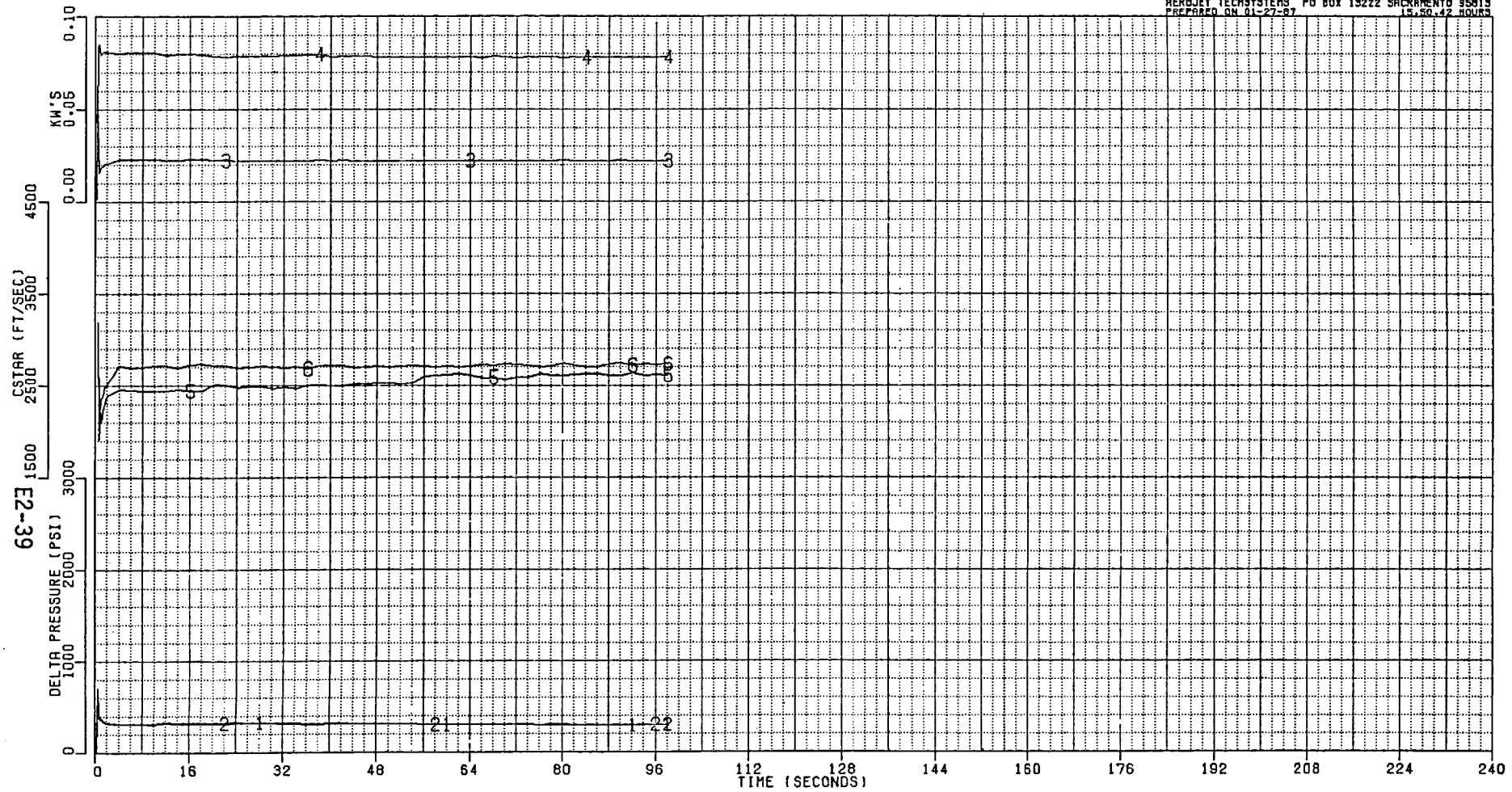


F WF LBS/SEC
O WOX LBS/SEC
T WTOT LBS/SEC
M MR

INJECTOR FLOW VS TIME
TEST NO. 2427-936-A6-125

TEST DATE 03-01-84 1544 HOURS AVERAGED DATA



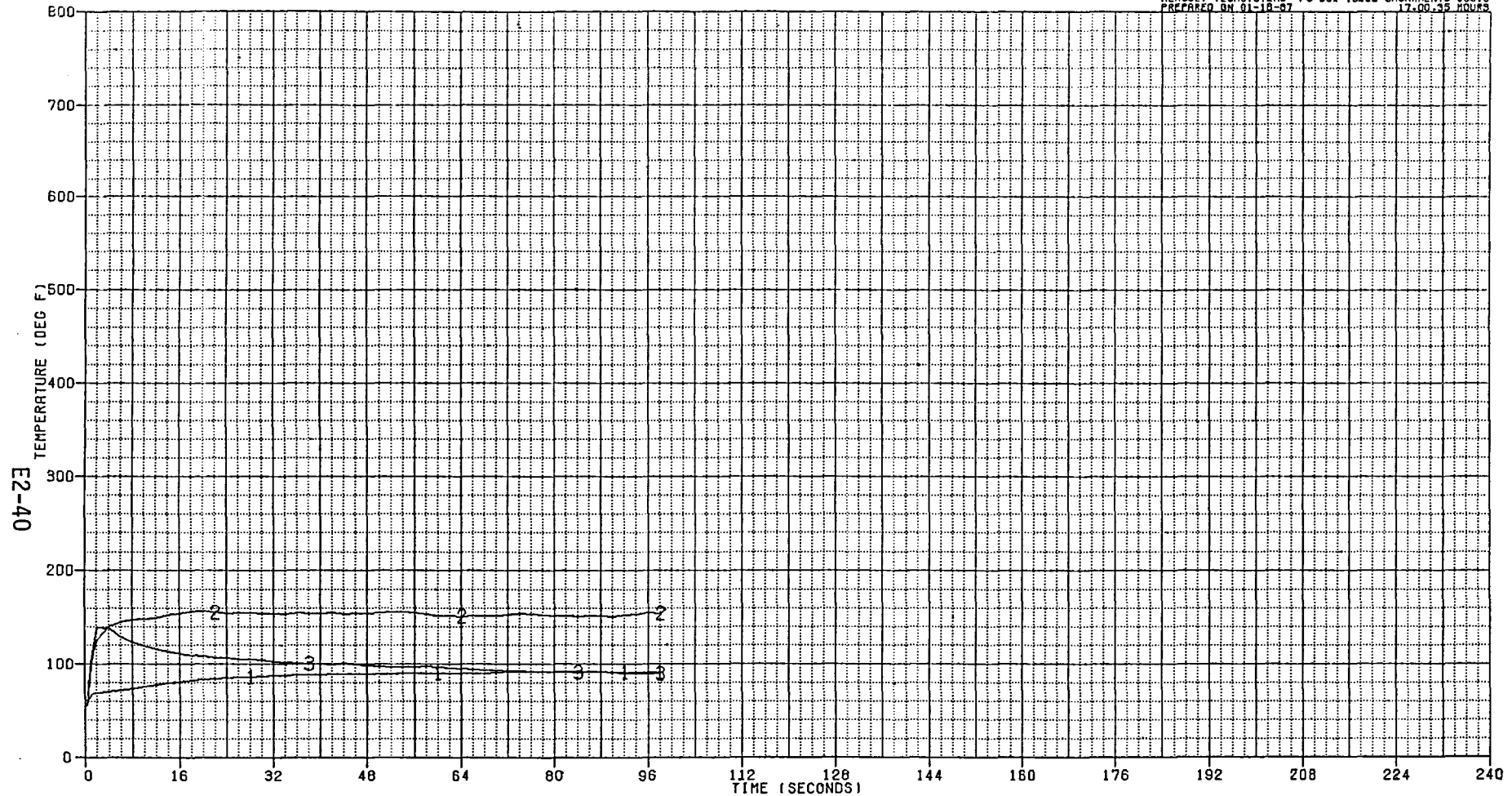


- 1 DPQJ PSI
- 2 DPFJ PSI
- 3 KWQJ
- 4 KWFJ
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC



INJECTOR CALCULATIONS VS TIME TEST NO. RLB6-936-125

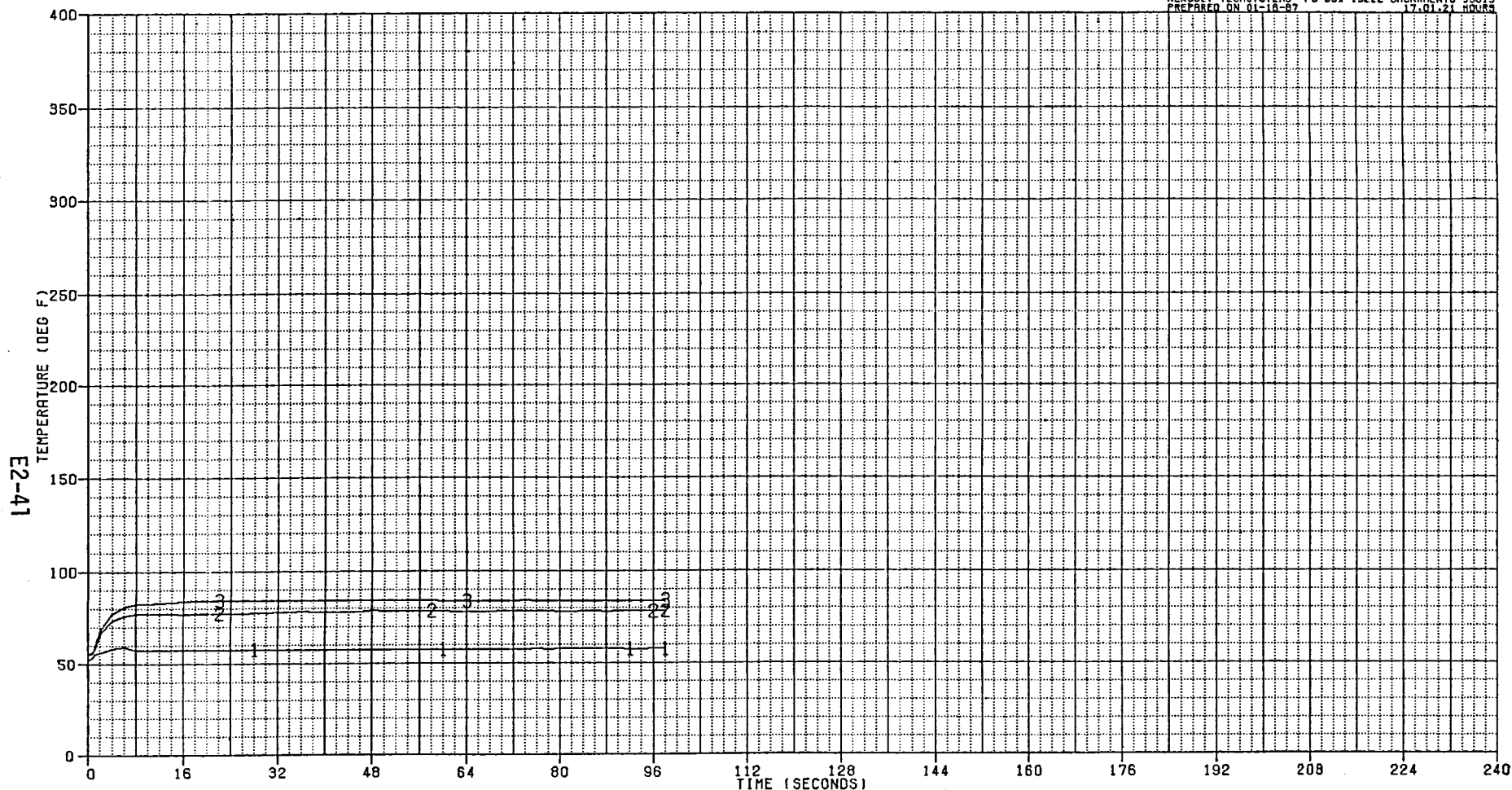
TEST DATE 03-01-84 1544 HOURS AVERAGED DATA



1 TC-7 DEG F
 2 TC-10 DEG F
 3 TC-11 DEG F
 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME
 TEST NO. 2427-936-A6-125
 BARREL DATA
 TEST DATE 03-01-84 1544 HOURS AVERAGED DATA

AEROJET
TechSystems
 COMPANY

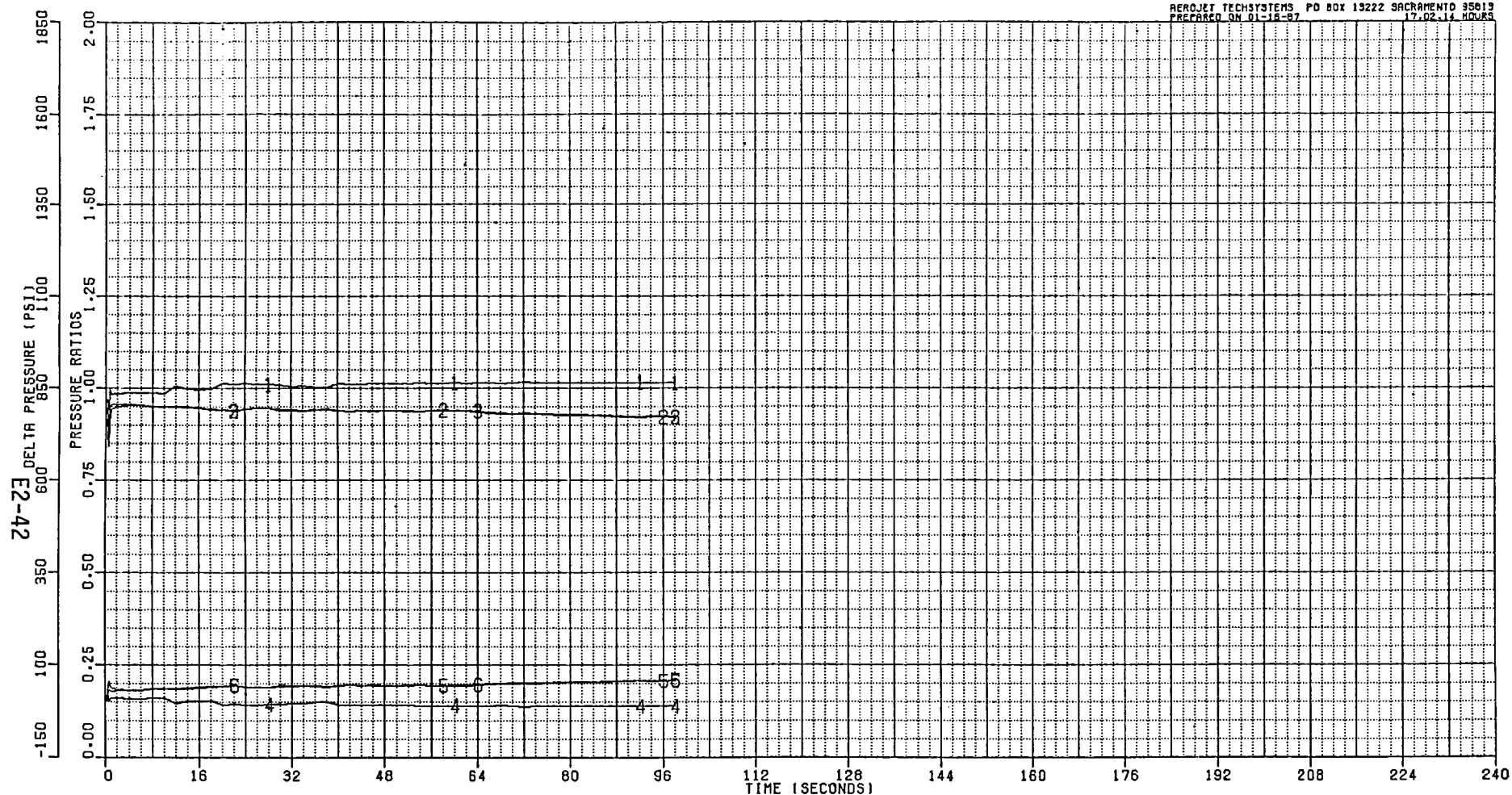


1 TWC-2 DEG F
 2 TWC-26 DEG F
 3 TWC-27 DEG F
 4 TWC-31 DEG F
 5 TWC-32 DEG F

COOLANT OUTLET TEMPERATURES VS TIME
 TEST NO. 2427-936-A6-125

TEST DATE 03-01-84 1544 HOURS AVERAGED DATA

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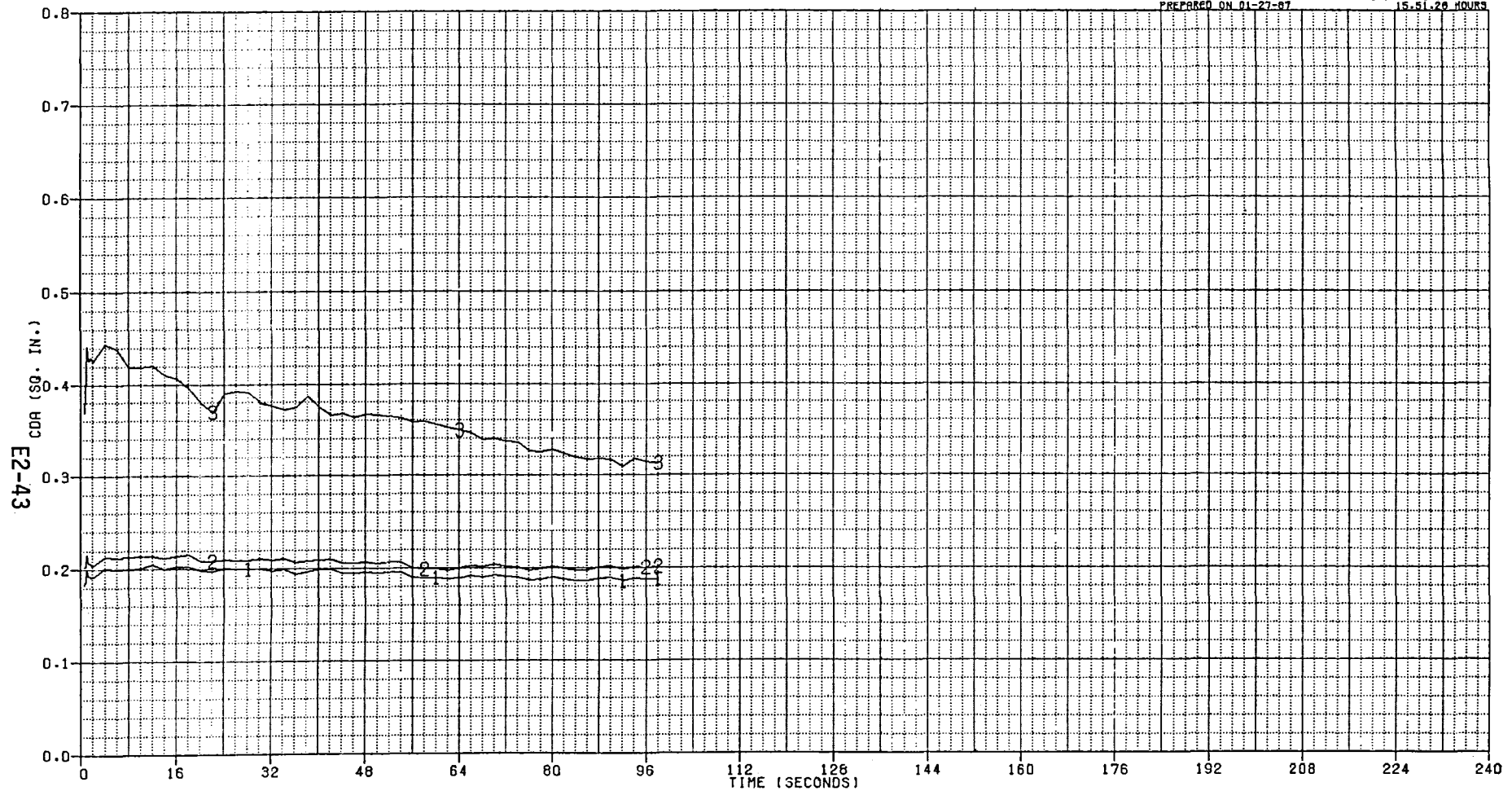


- 1 PRTR
- 2 PRTS
- 3 PRTSC
- 4 DPTR
- 5 DPTS
- 6 DPTSM

PSI
PSI
PSI



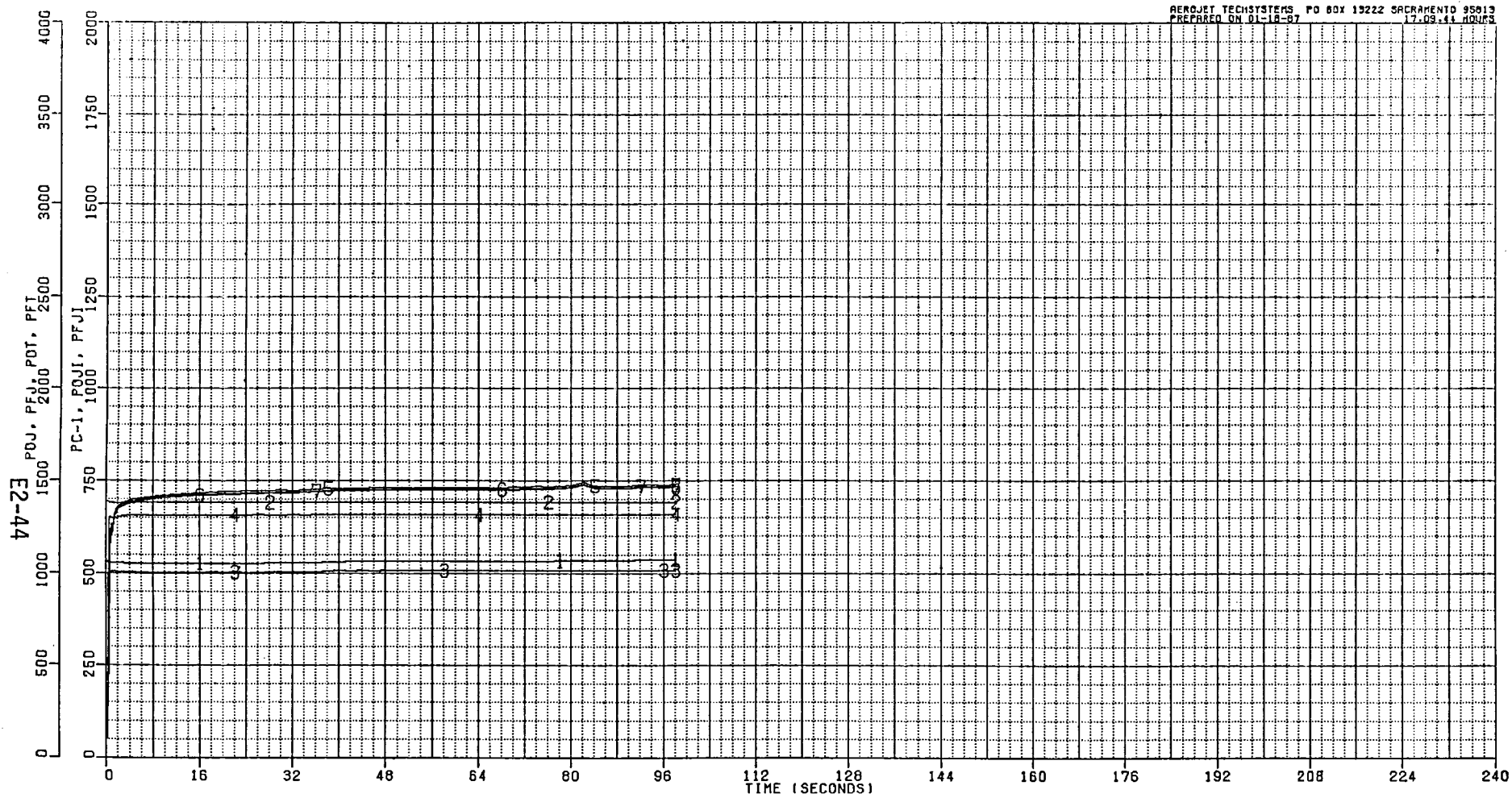
TURBINE BUILD-UP DATA VS TIME
TEST NO. 2427-936-A6-125
CHAMBER PRESSURE DROPS AND RATIOS
TEST DATE 03-01-84 1544 HOURS AVERAGED DATA



1 NA1 50. IN.
2 NA2 50. IN.
3 CDA

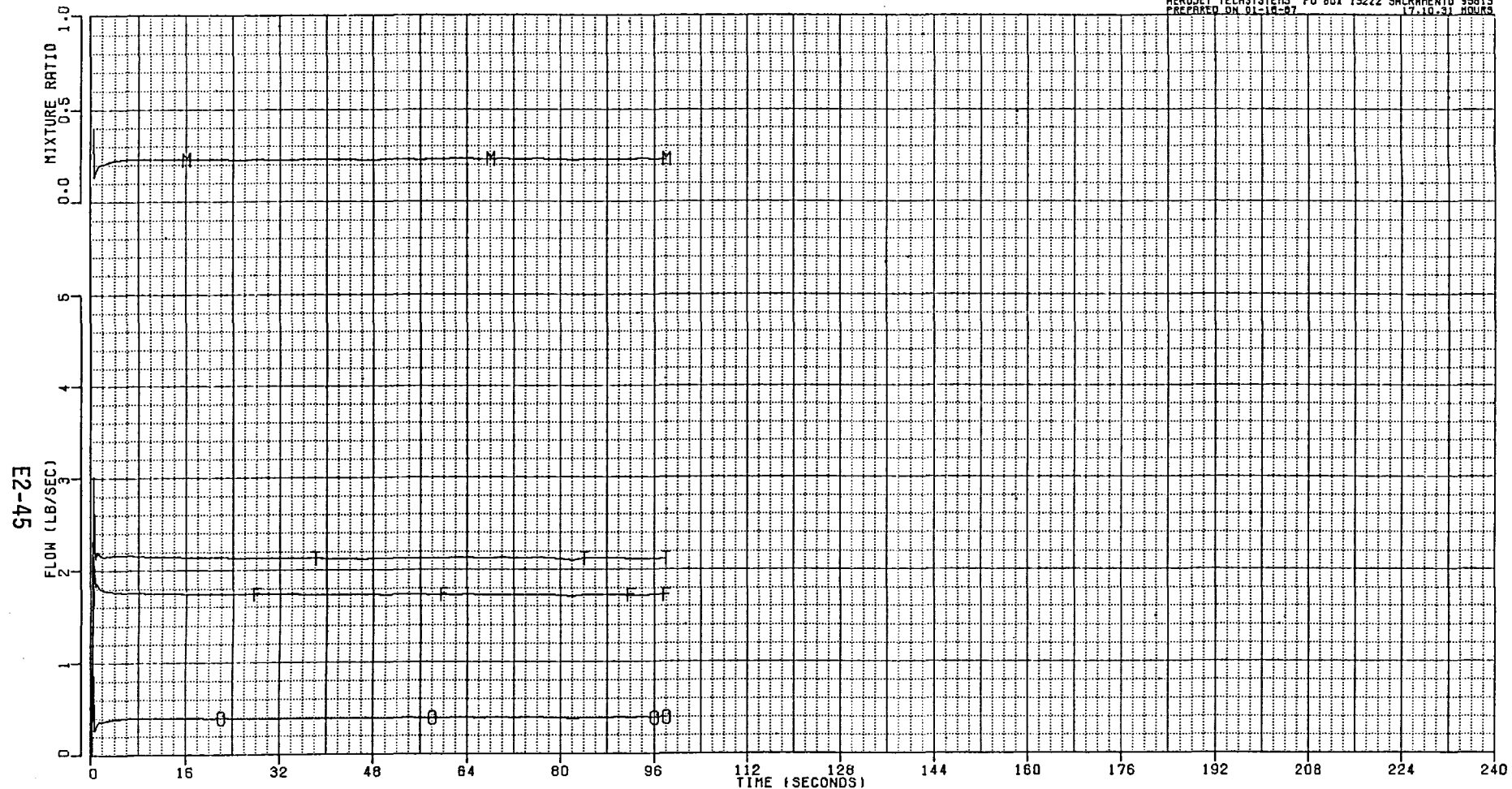
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COMPANY

INJECTOR CALCULATIONS VS TIME
TEST NO. RLB6-936-125
NOZZLE AREA CHANGE
TEST DATE 03-01-84 1544 HOURS AVERAGED DATA



1 POT PSIA
2 PFT PSIA
3 POJ PSIA
4 PFJ PSIA
5 PC-1 PSIA
6 POJI PSIA
7 PFJI PSIA

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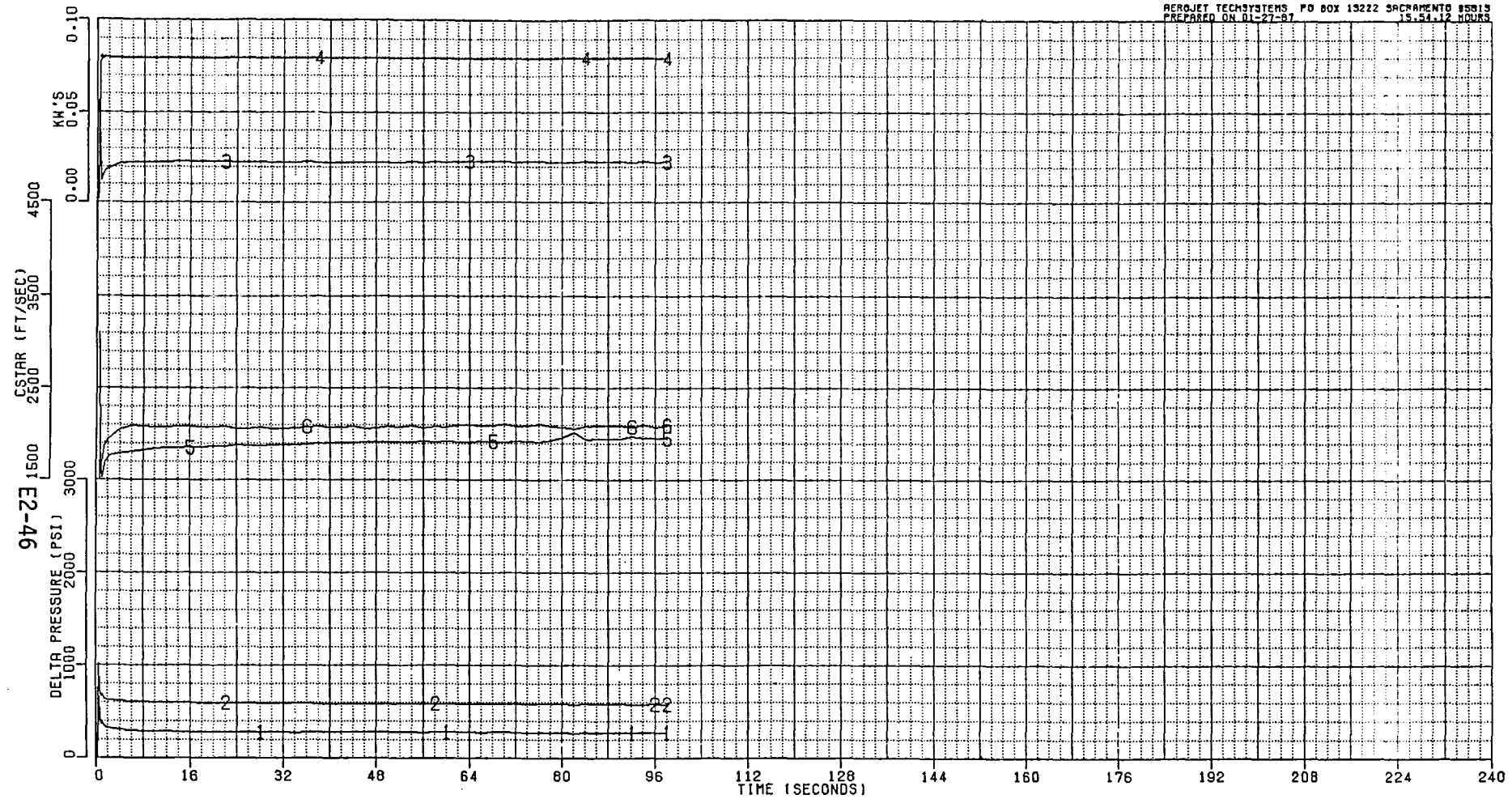


F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR

INJECTOR FLOW VS TIME
 TEST NO. 2427-936-A6-126

TEST DATE 03-01-84 1635 HOURS AVERAGED DATA

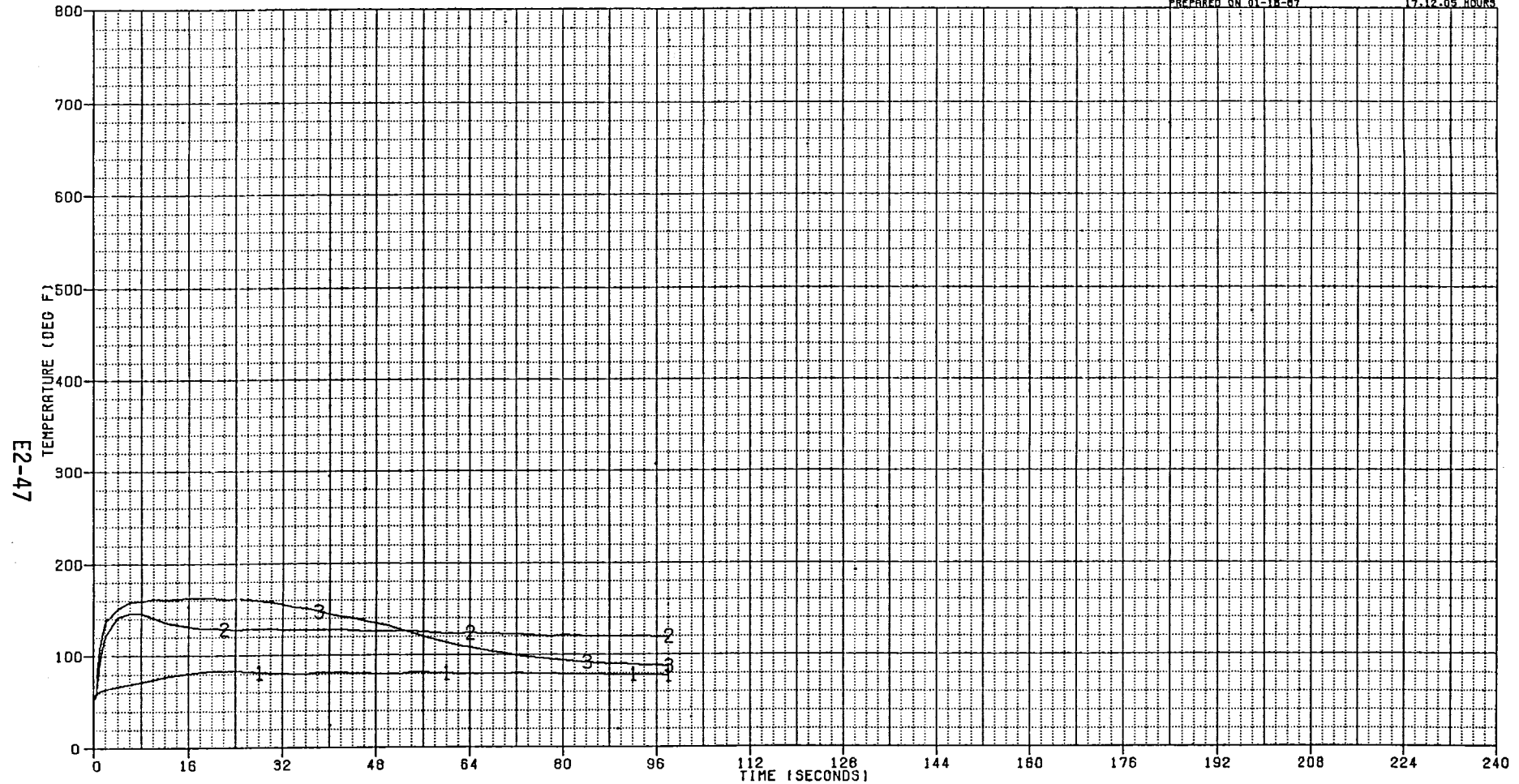
AEROJET
TechSystems
 COMPANY



- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ PSI
- 4 KWFJ PSI
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

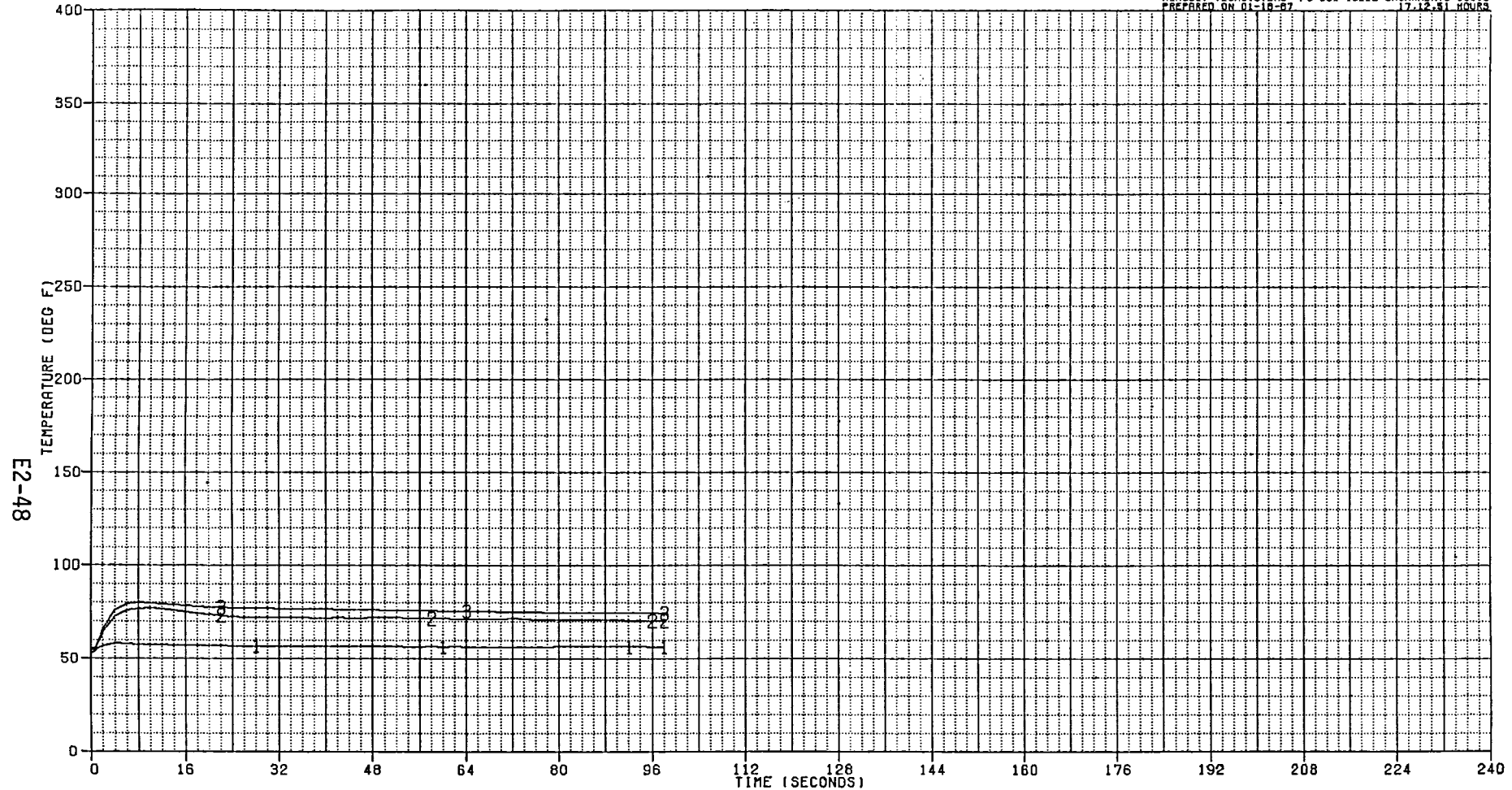


INJECTOR CALCULATIONS VS TIME
 TEST NO. RLB6-936-126
 TEST DATE 03-01-84 1635 HOURS AVERAGED DATA



1 TC-7 DEG F
 2 TC-10 DEG F
 3 TC-11 DEG F
 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME
 TEST NO. 2427-936-A6-126
 BARREL DATA
 TEST DATE 03-01-84 1635 HOURS AVERAGED DATA

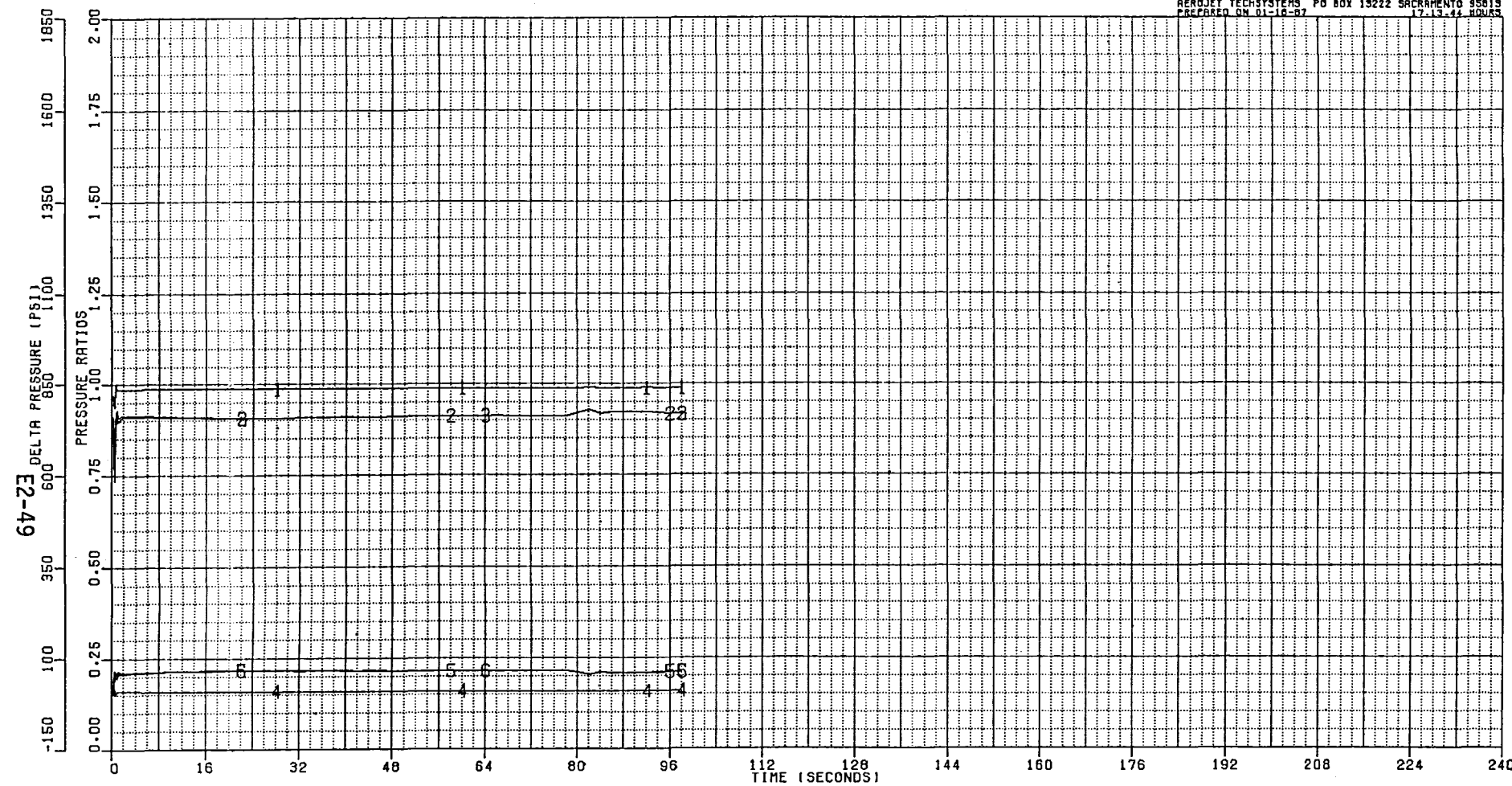


1 TWC-2 DEG F
2 TWC-26 DEG F
3 TWC-27 DEG F
4 TWC-31 DEG F
5 TWC-32 DEG F

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COMPANY

COOLANT OUTLET TEMPERATURES VS TIME
TEST NO. 2427-936-A6-126

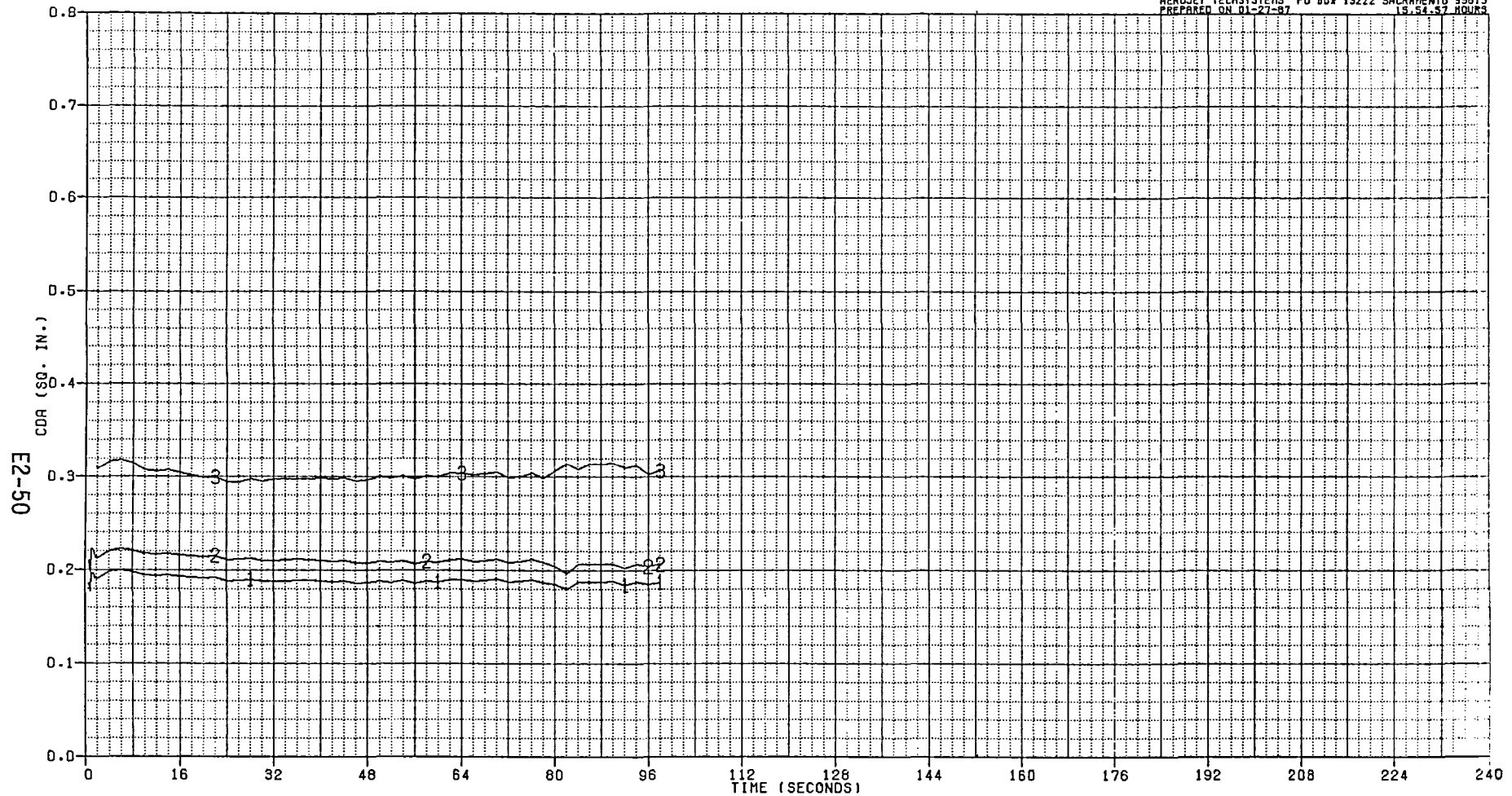
TEST DATE 03-01-84 1635 HOURS AVERAGED DATA



- 1 PRTR
- 2 PRTS
- 3 PRTSC
- 4 DPTR PSI
- 5 DPTS PSI
- 6 DPTSH PSI



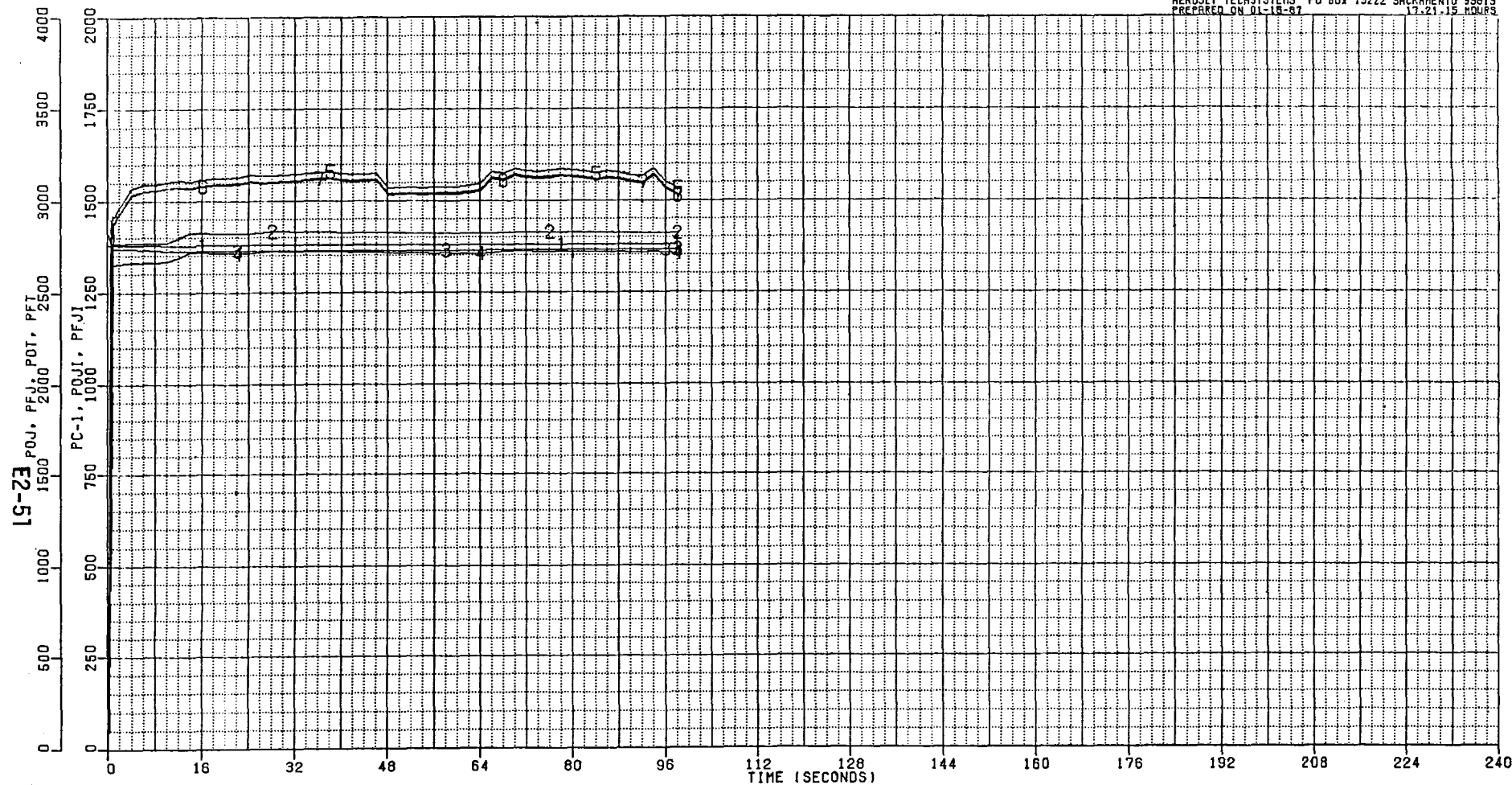
TURBINE BUILD-UP DATA VS TIME
 TEST NO. 2427-936-A6-126
 CHAMBER PRESSURE DROPS AND RATIOS
 TEST DATE 03-01-84 1635 HOURS AVERAGED DATA



1 NR1 SQ.IN.
 2 NR2 SQ.IN.
 3 CDR

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INJECTOR CALCULATIONS VS TIME
 TEST NO. RLB6-936-126
 NOZZLE AREA CHANGE
 TEST DATE 03-01-84 1635 HOURS AVERAGED DATA



- | | |
|--------|------|
| 1 POT | PSIA |
| 2 PFT | PSIA |
| 3 POJ | PSIA |
| 4 PFJ | PSIA |
| 5 PC-1 | PSIA |
| 6 POJI | PSIA |
| 7 PFJI | PSIA |

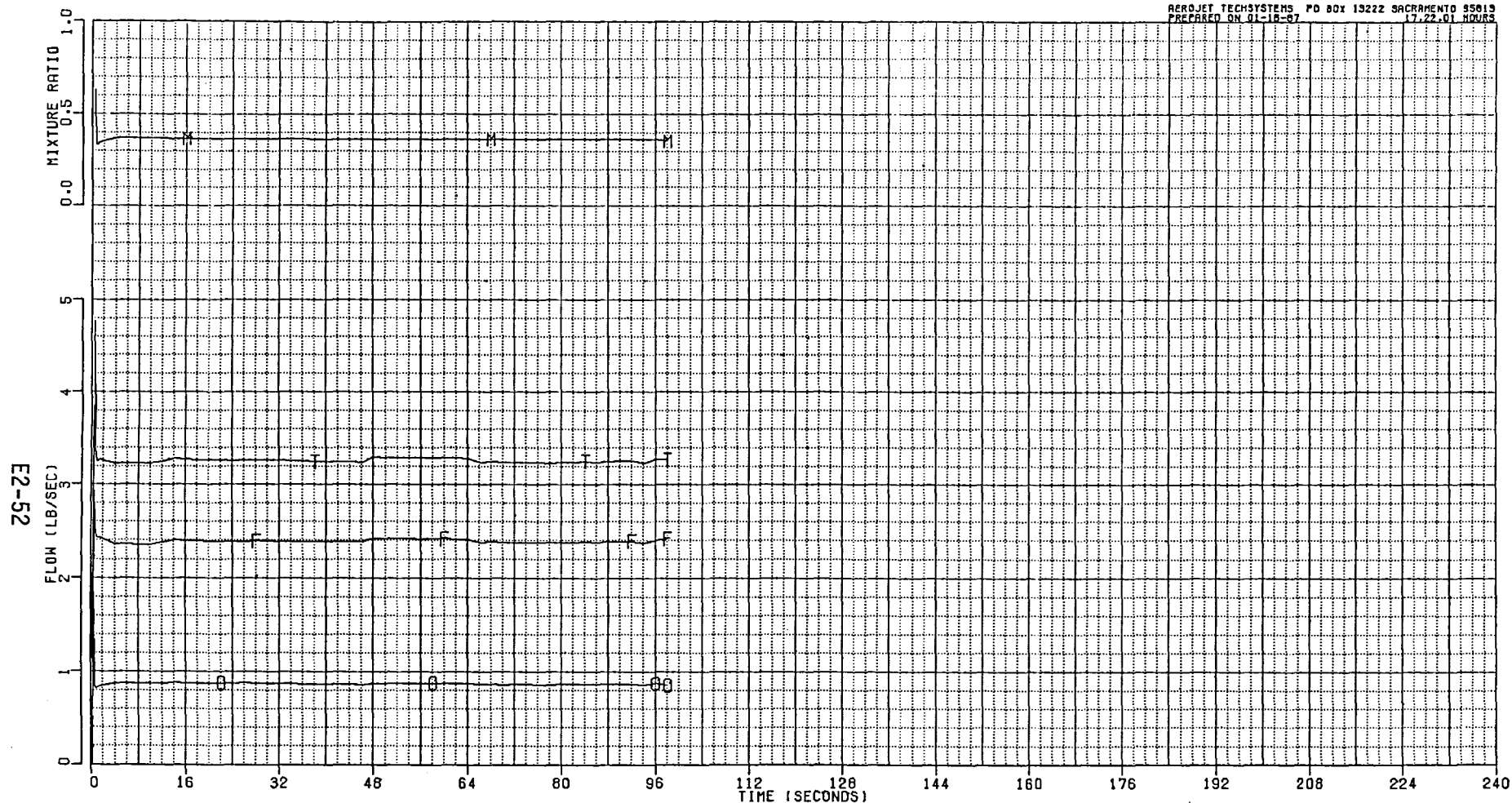
AEROJET

 COMPANY

MEASURED PRESSURES VS TIME
 TEST NO. 2427-936-A6-129

TEST DATE 03-02-84 1552 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813
 PREPARED ON 01-18-87 17:21:15 HOURS

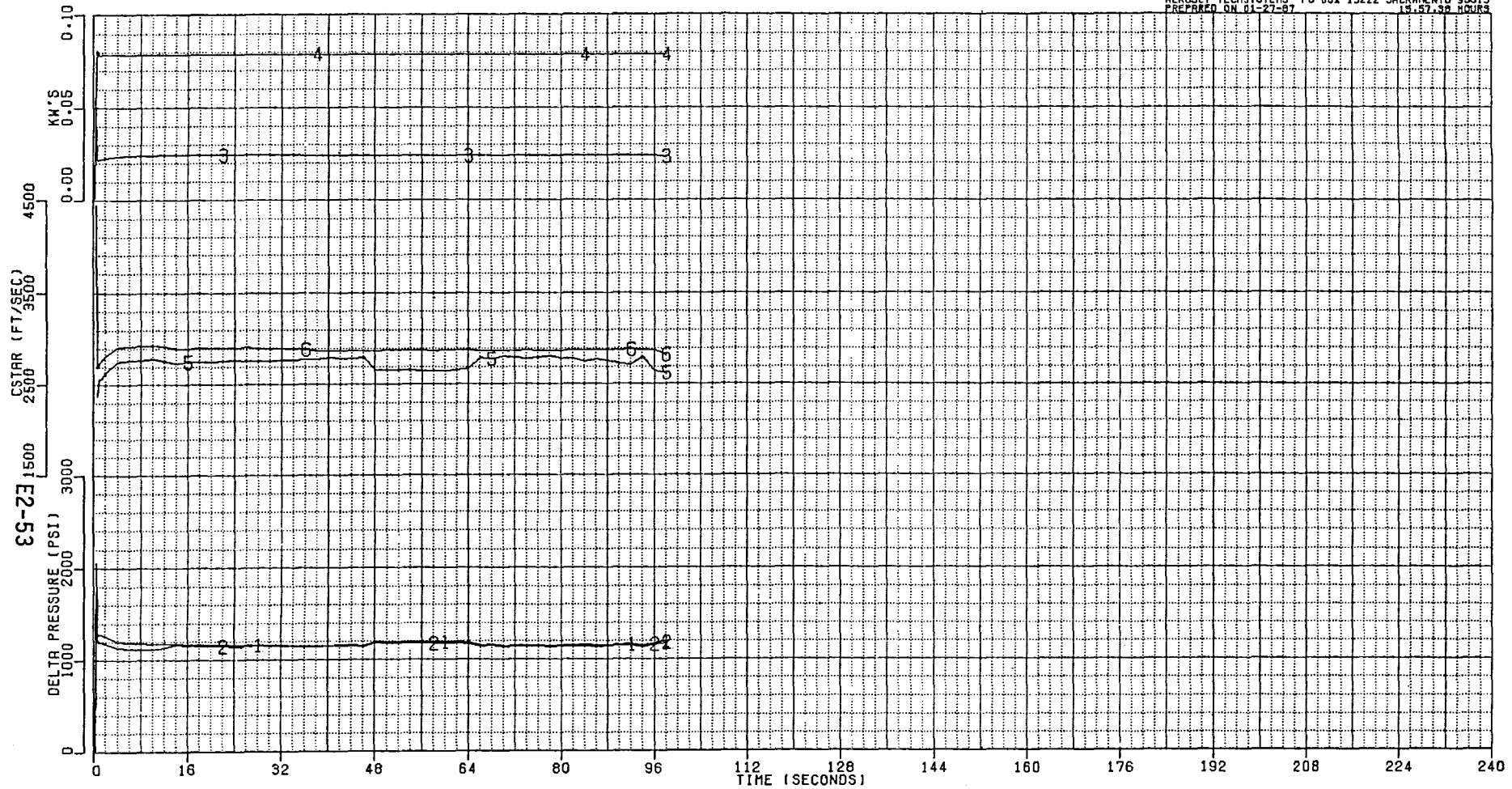


F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR

INJECTOR FLOW VS TIME
 TEST NO. 2427-936-A6-129

TEST DATE 03-02-84 1552 HOURS AVERAGED DATA

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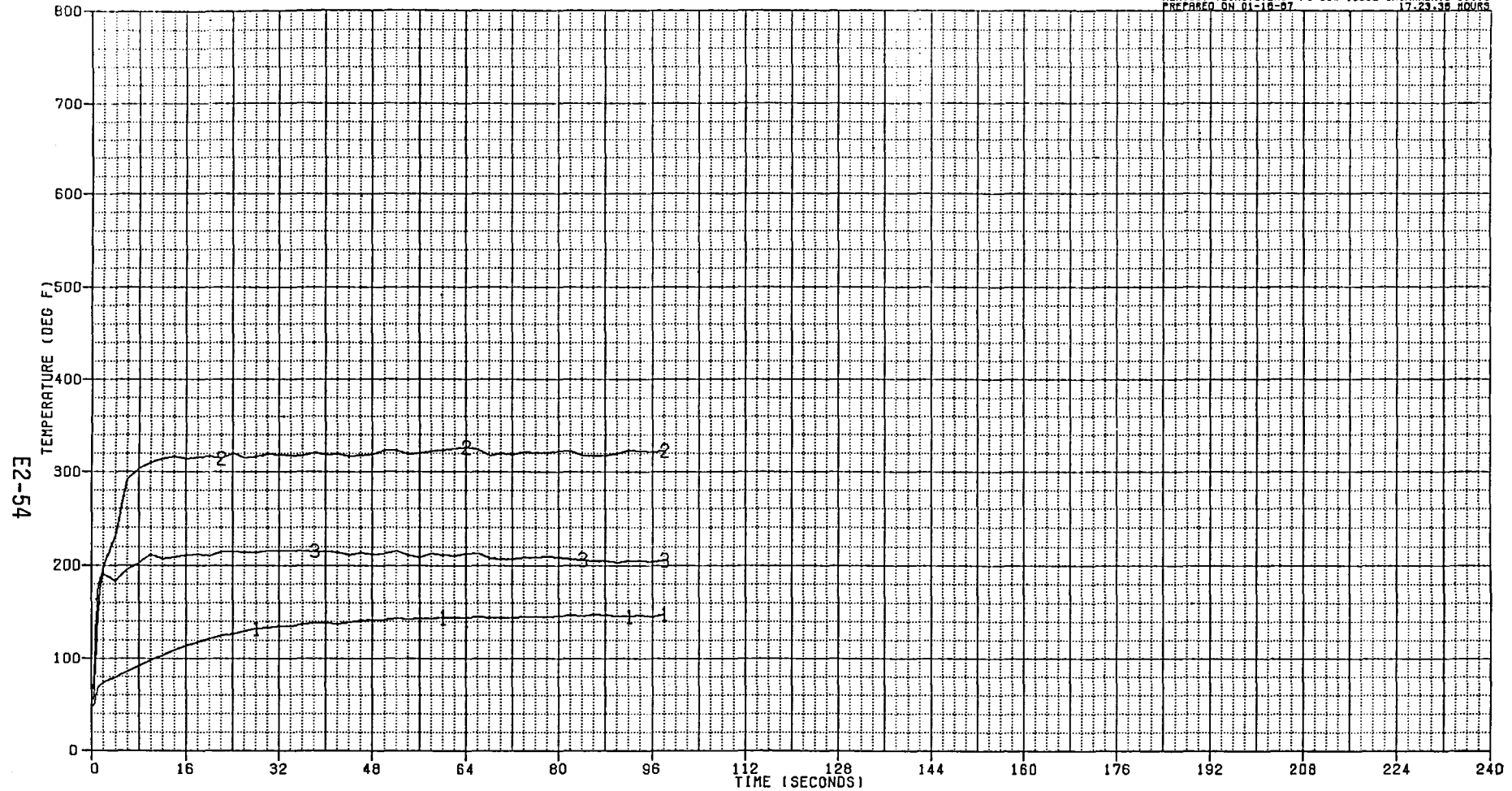


1 DPQJ PSI
 2 DPFJ PSI
 3 KWOJ
 4 KWFJ
 5 CSTRPB FT/SEC
 6 CSTAR FT/SEC

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INJECTOR CALCULATIONS VS TIME
 TEST NO. RLB6-936-129

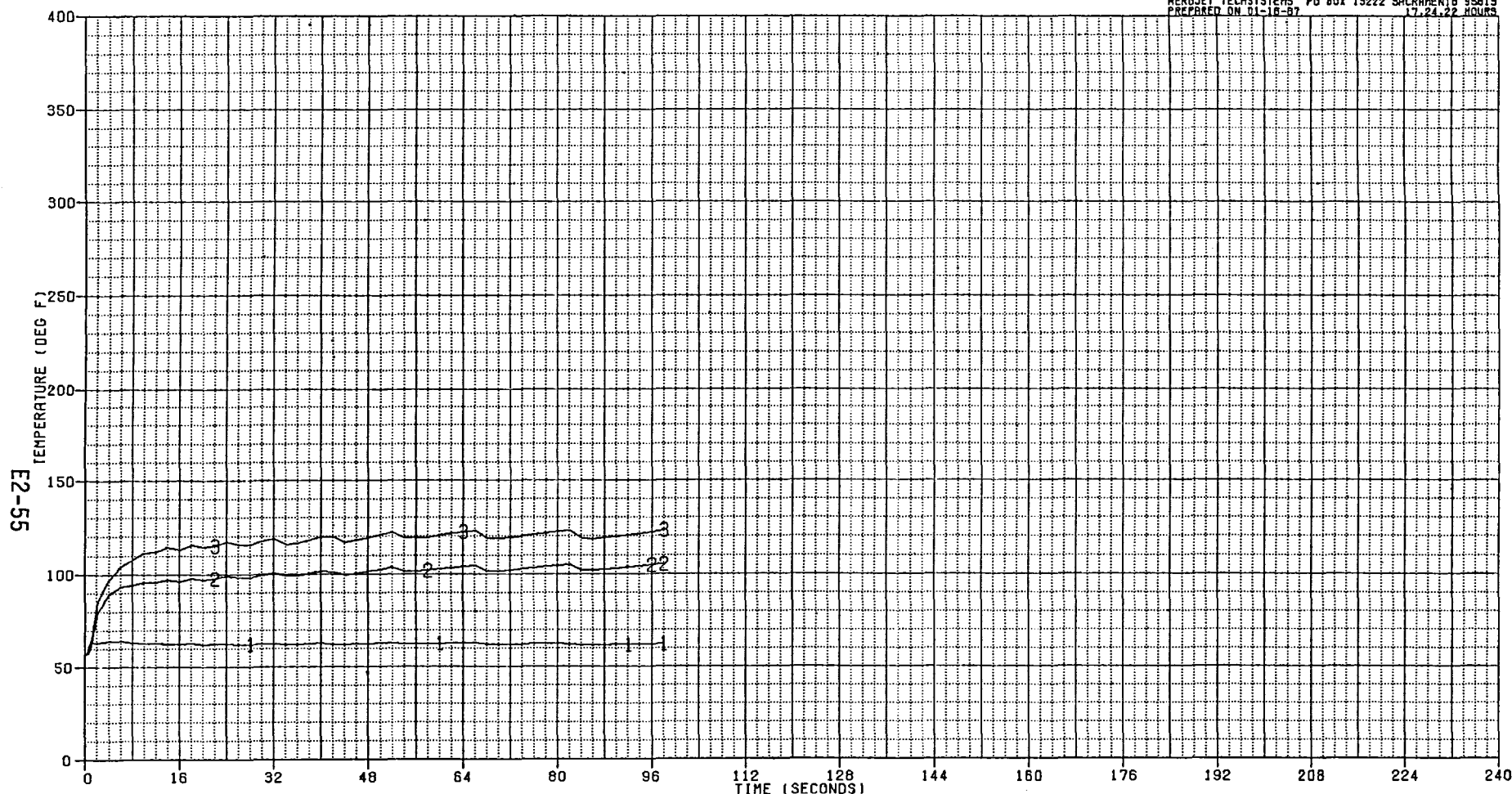
TEST DATE 03-02-84 1552 HOURS AVERAGED DATA



1 TC-7 DEG F
2 TC-10 DEG F
3 TC-11 DEG F
4 TC-12 DEG F

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GAS SIDE WALL TEMPERATURES VS TIME
TEST NO. 2427-936-A6-129
BARREL DATA
TEST DATE 03-02-84 1552 HOURS AVERAGED DATA

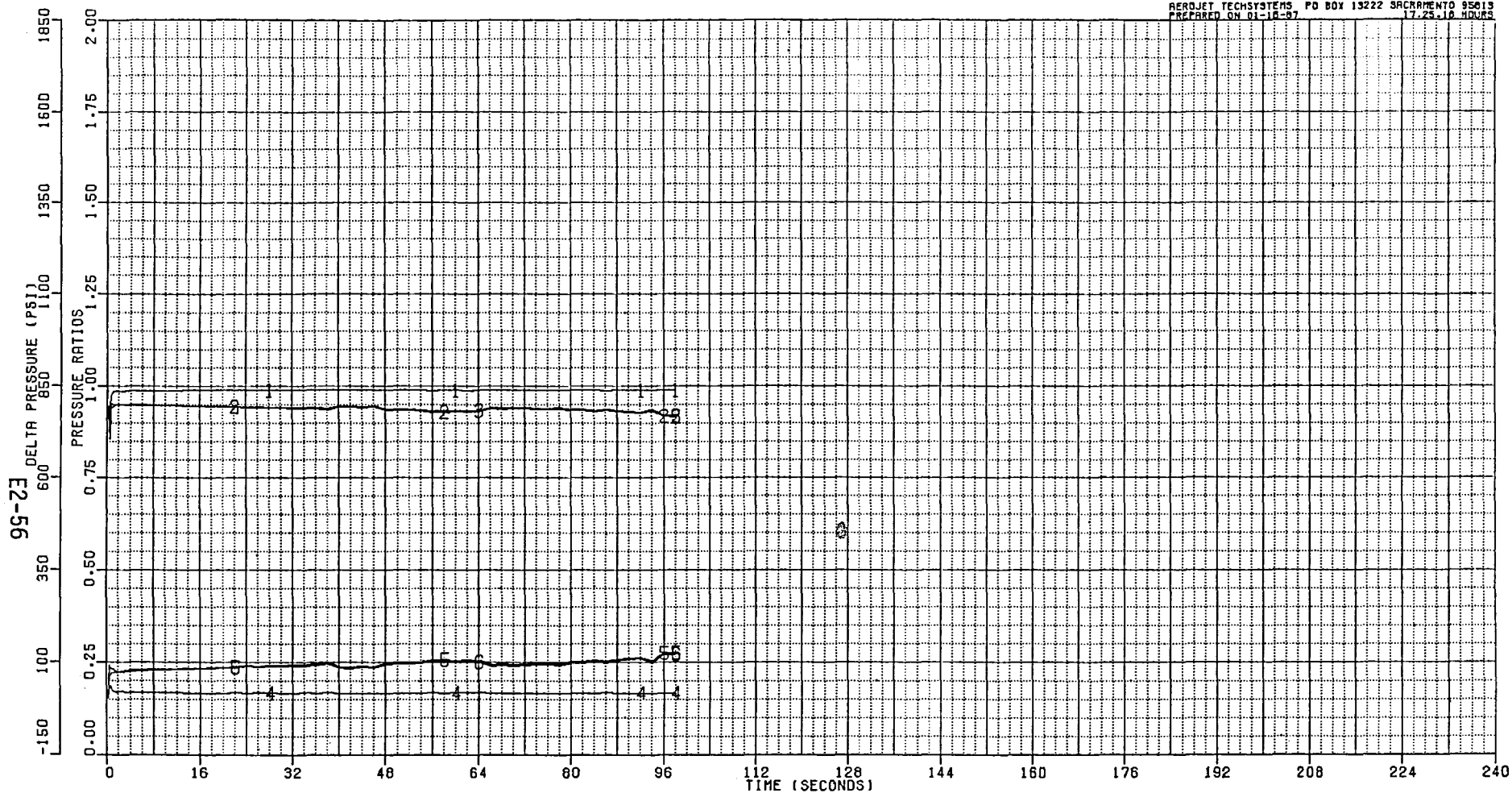


1 TWC-2 DEG F
2 TWC-26 DEG F
3 TWC-27 DEG F
4 TWC-31 DEG F
5 TWC-32 DEG F

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COOLANT OUTLET TEMPERATURES VS TIME
TEST NO. 2427-936-A6-129

TEST DATE 03-02-84 1552 HOURS AVERAGED DATA



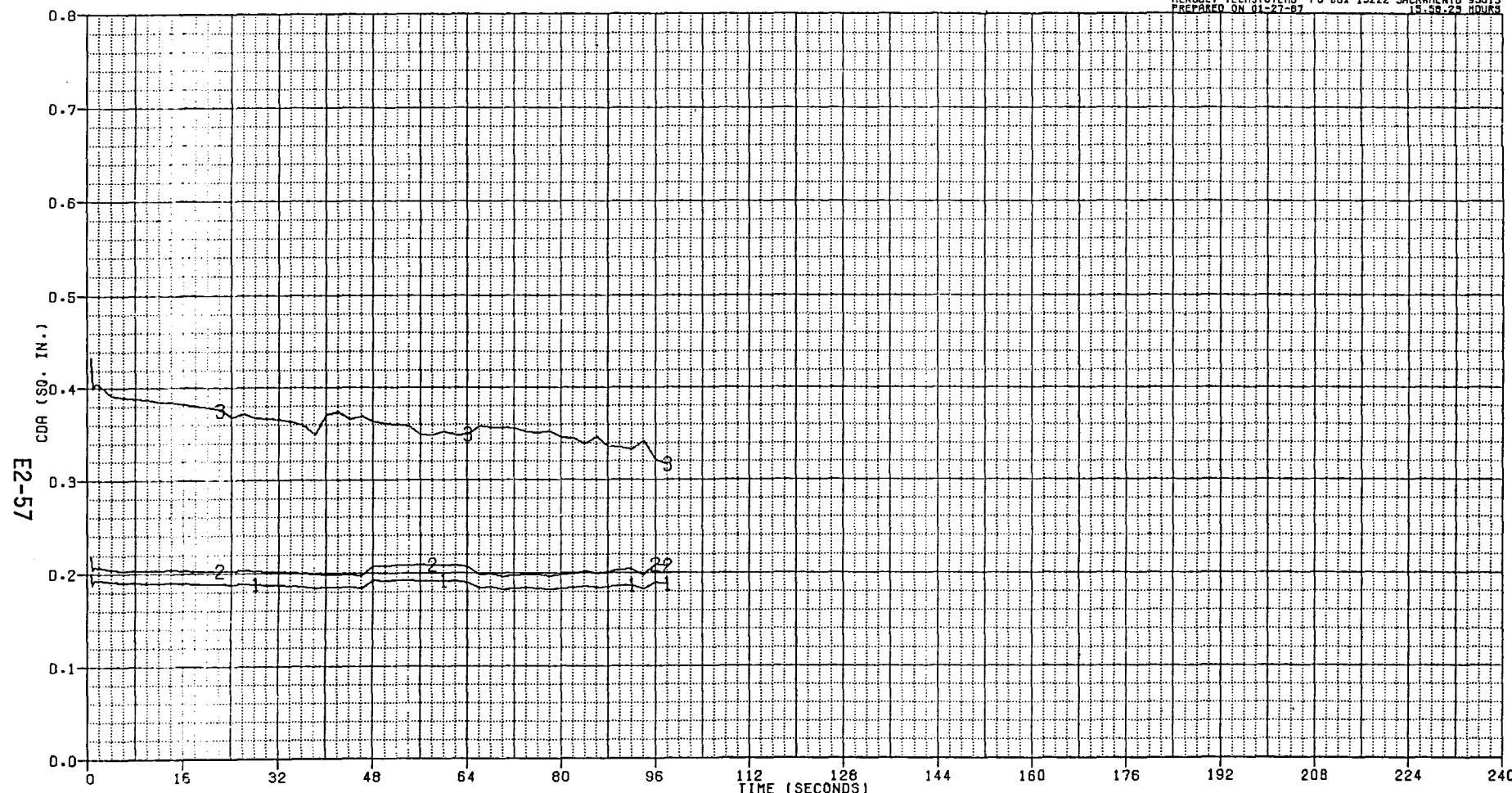
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95613
 PREPARED ON 01-18-87 17:25:18 HOURS

- 1 PRTR
- 2 PRTS
- 3 PRISC
- 4 DPTR
- 5 DPTS
- 6 DPTSM

PSI
 PSI
 PSI



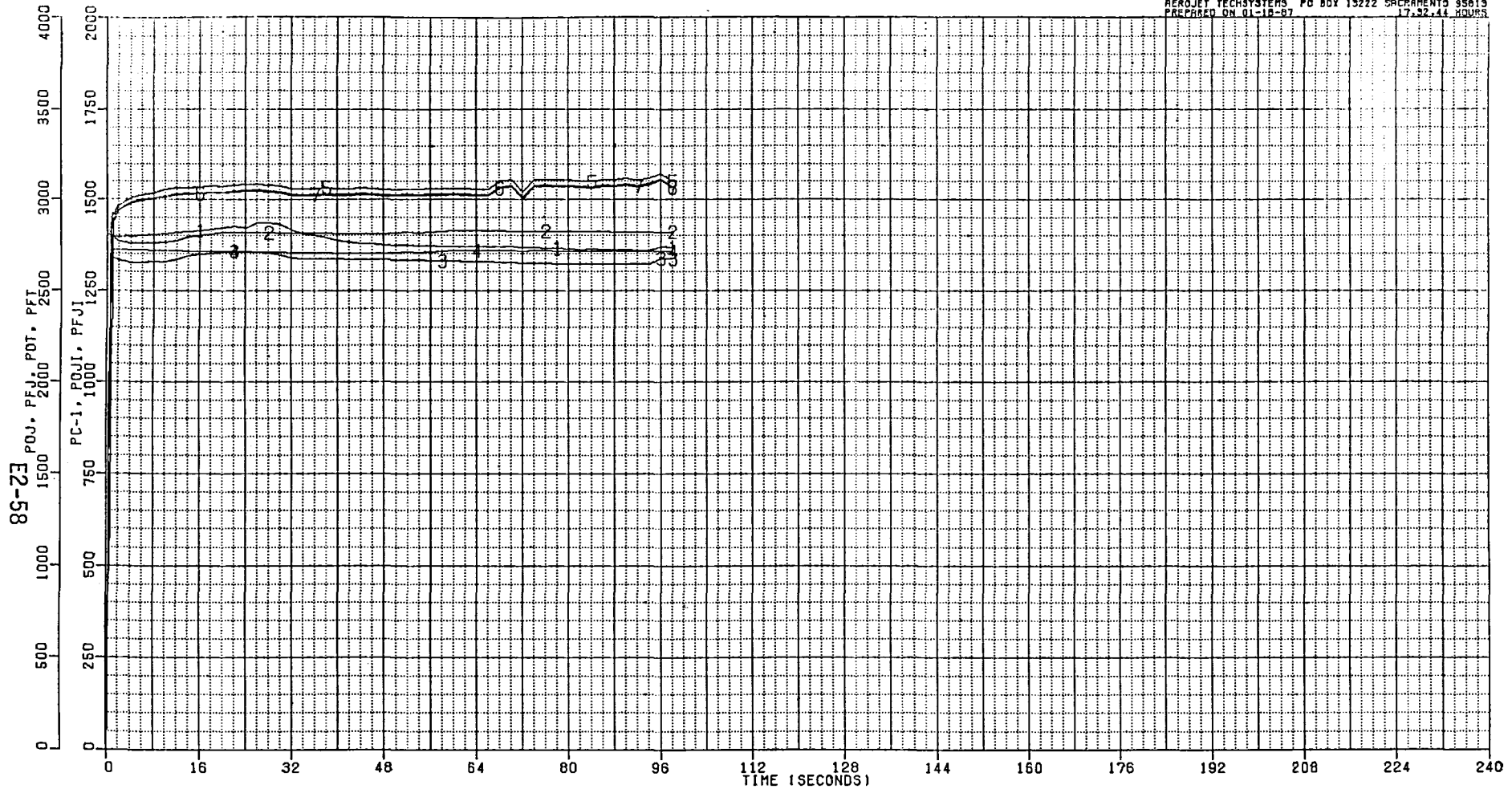
TURBINE BUILD-UP DATA VS TIME
 TEST NO. 2427-936-A6-129
 CHAMBER PRESSURE DROPS AND RATIOS
 TEST DATE 03-02-84 1552 HOURS AVERAGED DATA



1 NA1 SC.IN.
 2 NA2 SC.IN.
 3 CDA

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLB6-936-129
 NOZZLE AREA CHANGE
 TEST DATE 03-02-84 1552 HOURS AVERAGED DATA





- | | |
|--------|------|
| 1 POT | PSIA |
| 2 PFT | PSIA |
| 3 POJ | PSIA |
| 4 PFJ | PSIA |
| 5 PC-1 | PSIA |
| 6 POJI | PSIA |
| 7 PFJI | PSIA |

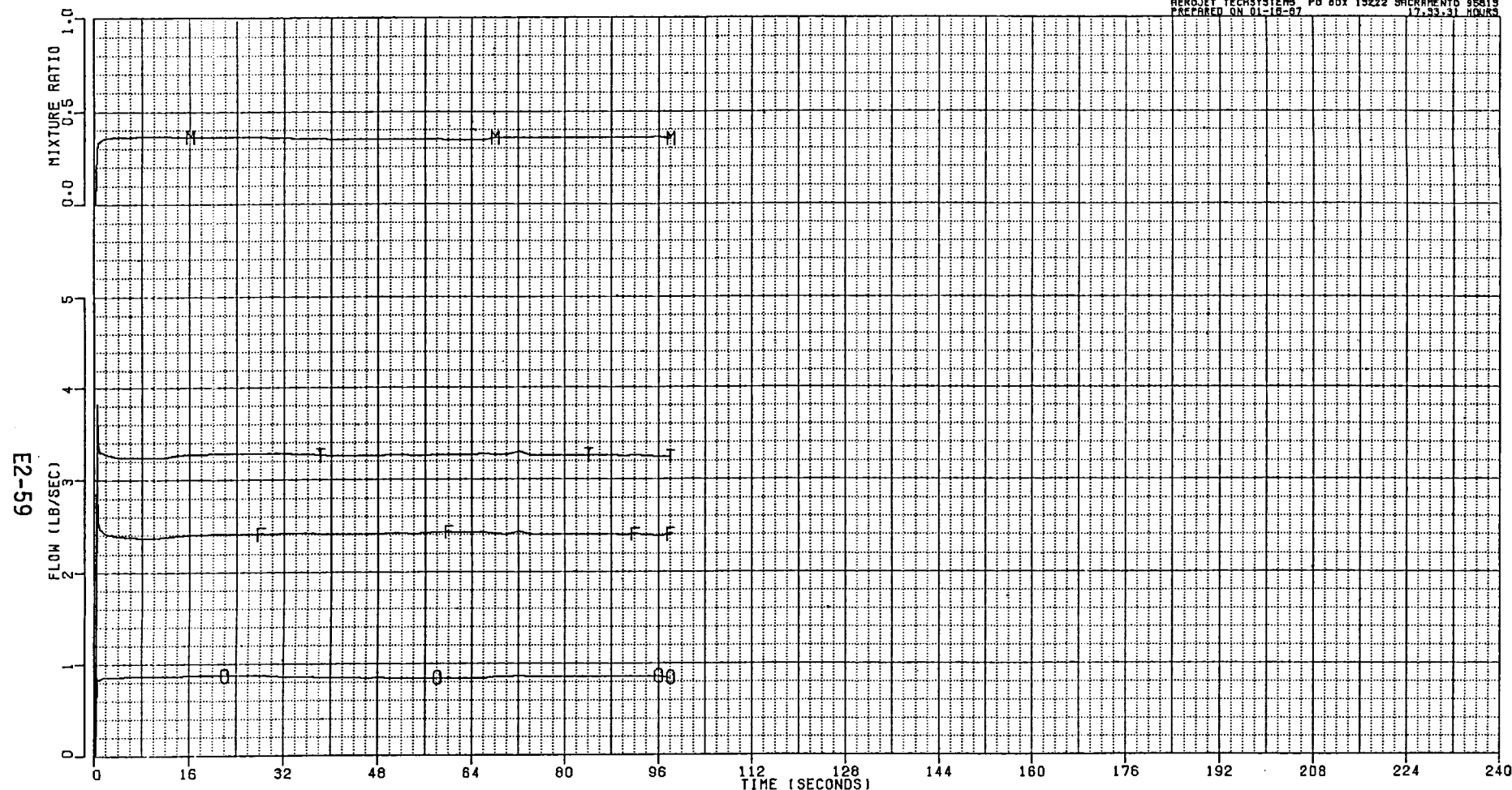
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MEASURED PRESSURES VS TIME
 TEST NO. 2427-936-A6-130

TEST DATE 03-02-84 1633 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS PC BOX 13222 SACRAMENTO 95813
 PREPARED ON 01-10-87 17:32.44 HOURS

AEROJET TECHSYSTEMS PD BOX 19222 SACRAMENTO 95619
 PREPARED ON 01-18-87 17.33.31 HOURS

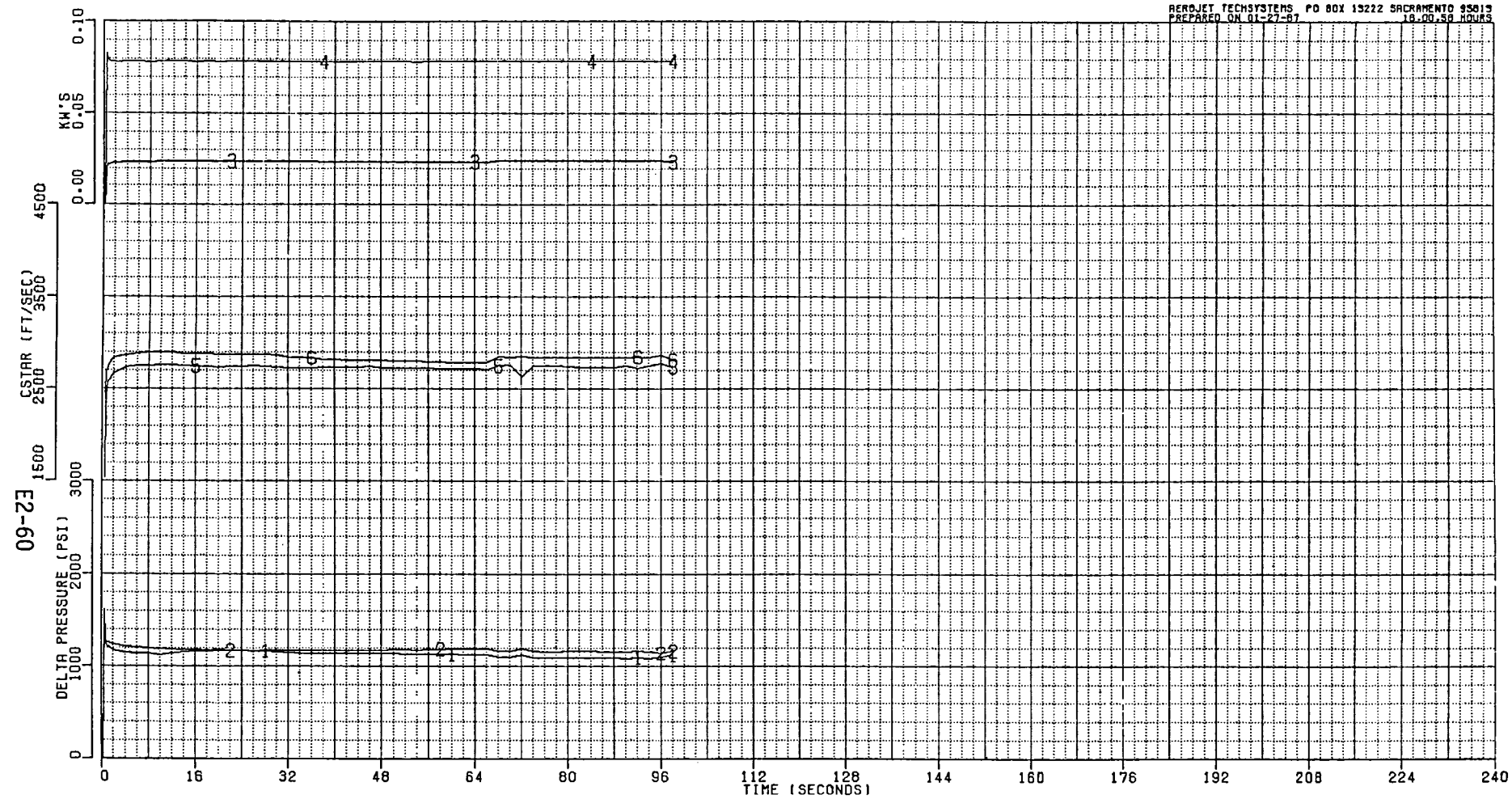


F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR

INJECTOR FLOW VS TIME
 TEST NO. 2427-936-A6-130

TEST DATE 03-02-84 1633 HOURS AVERAGED DATA

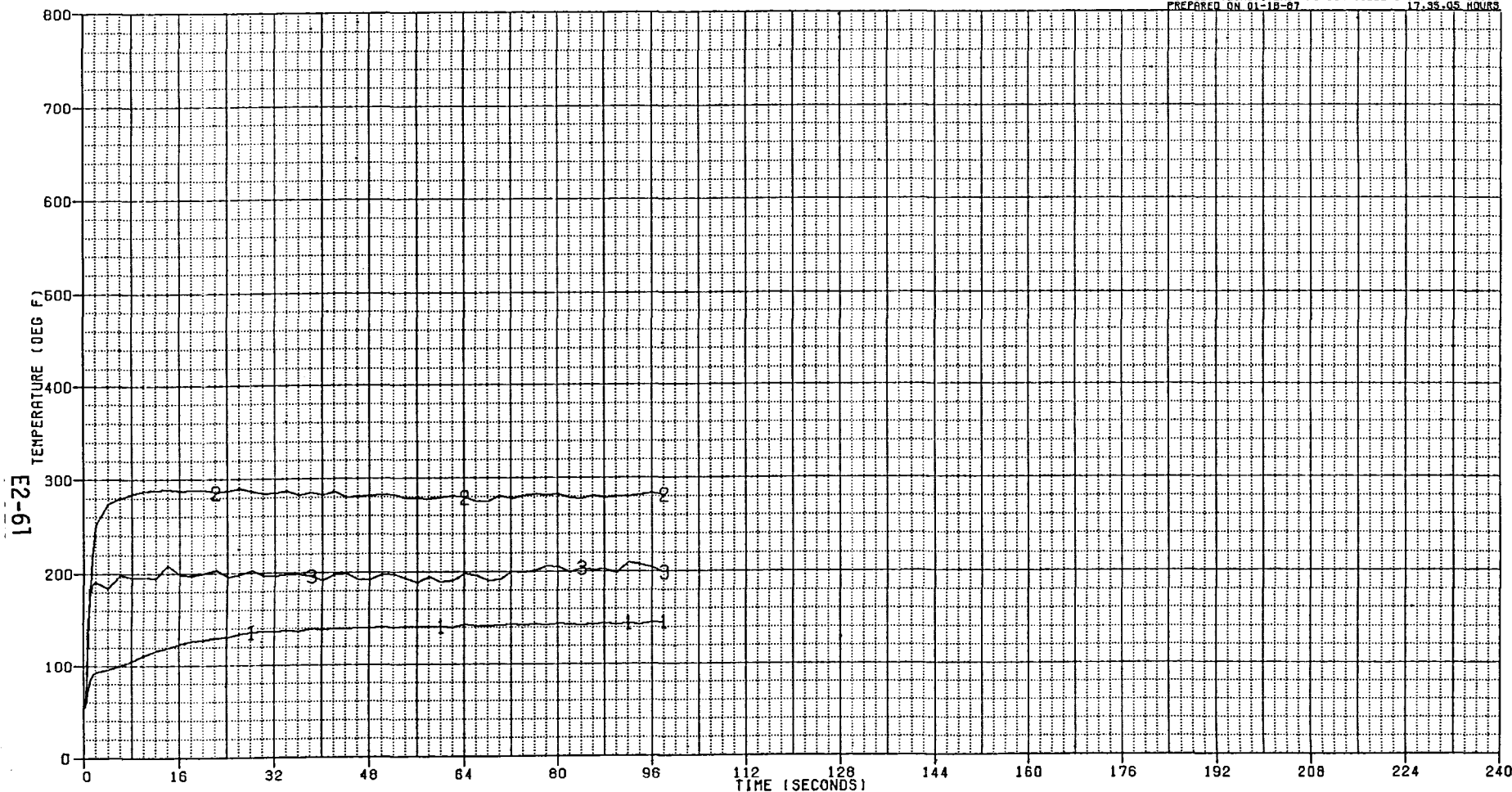
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 COMPANY



- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ PSI
- 4 KWFJ PSI
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

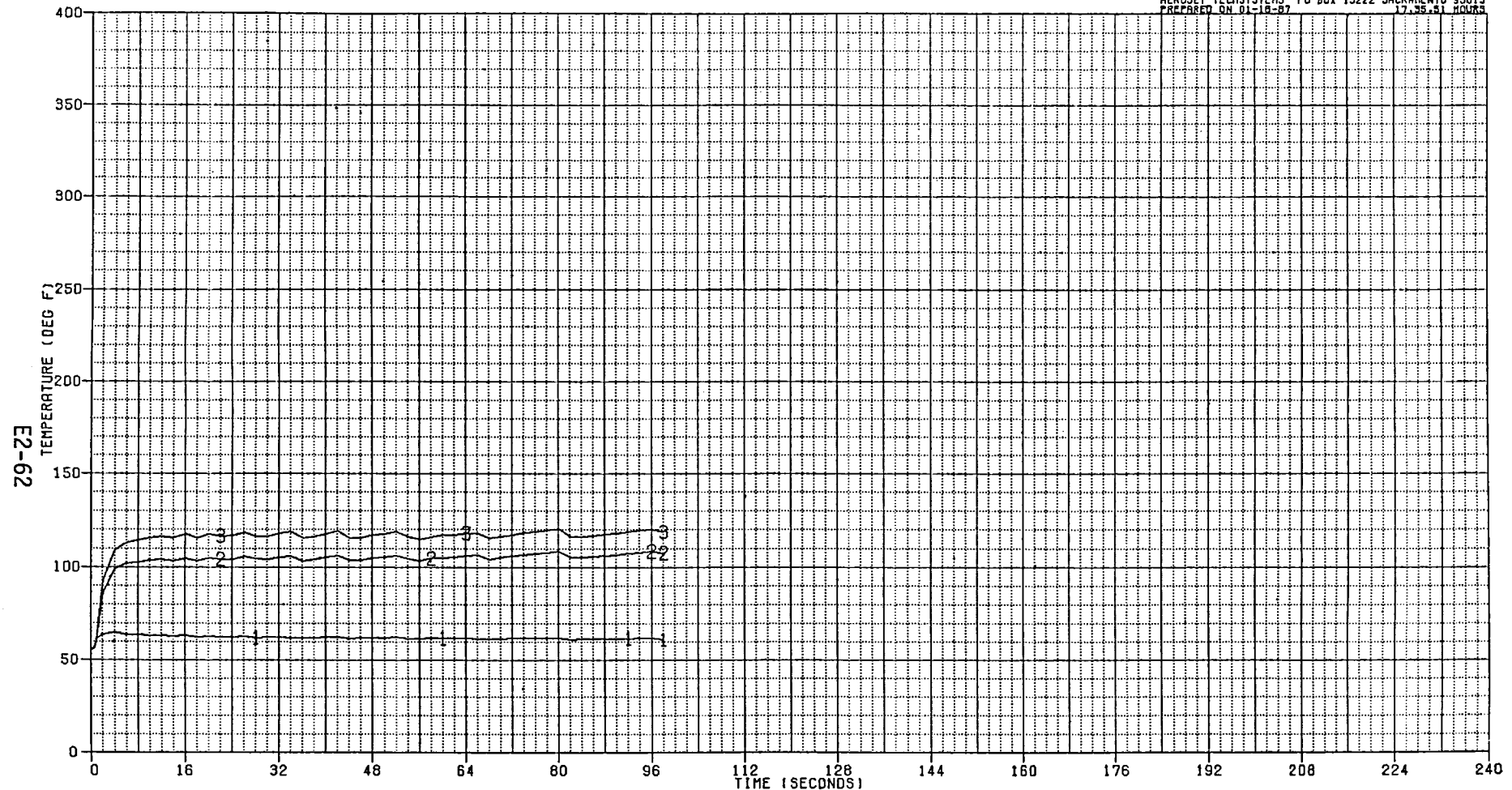


INJECTOR CALCULATIONS VS TIME
 TEST NO. RLB6-936-130
 TEST DATE 03-02-84 1633 HOURS AVERAGED DATA



- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME
 TEST NO. 2427-936-A6-130
 BARREL DATA
 TEST DATE 03-02-84 1633 HOURS AVERAGED DATA

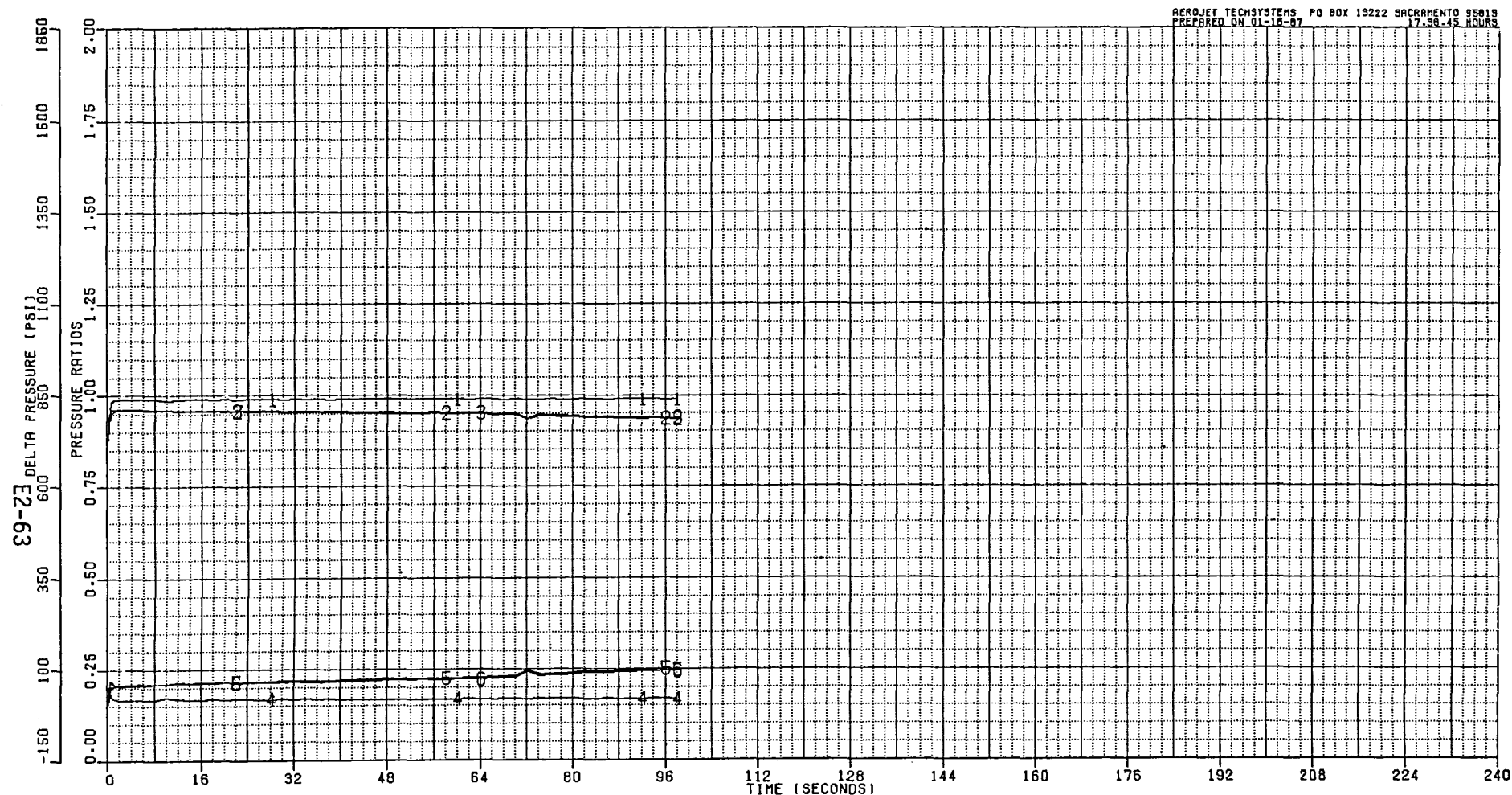


1 TWC-2 DEG F
2 TWC-26 DEG F
3 TWC-27 DEG F
4 TWC-31 DEG F
5 TWC-32 DEG F

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COOLANT OUTLET TEMPERATURES VS TIME
TEST NO. 2427-936-A6-130

TEST DATE 03-02-84 1633 HOURS AVERAGED DATA

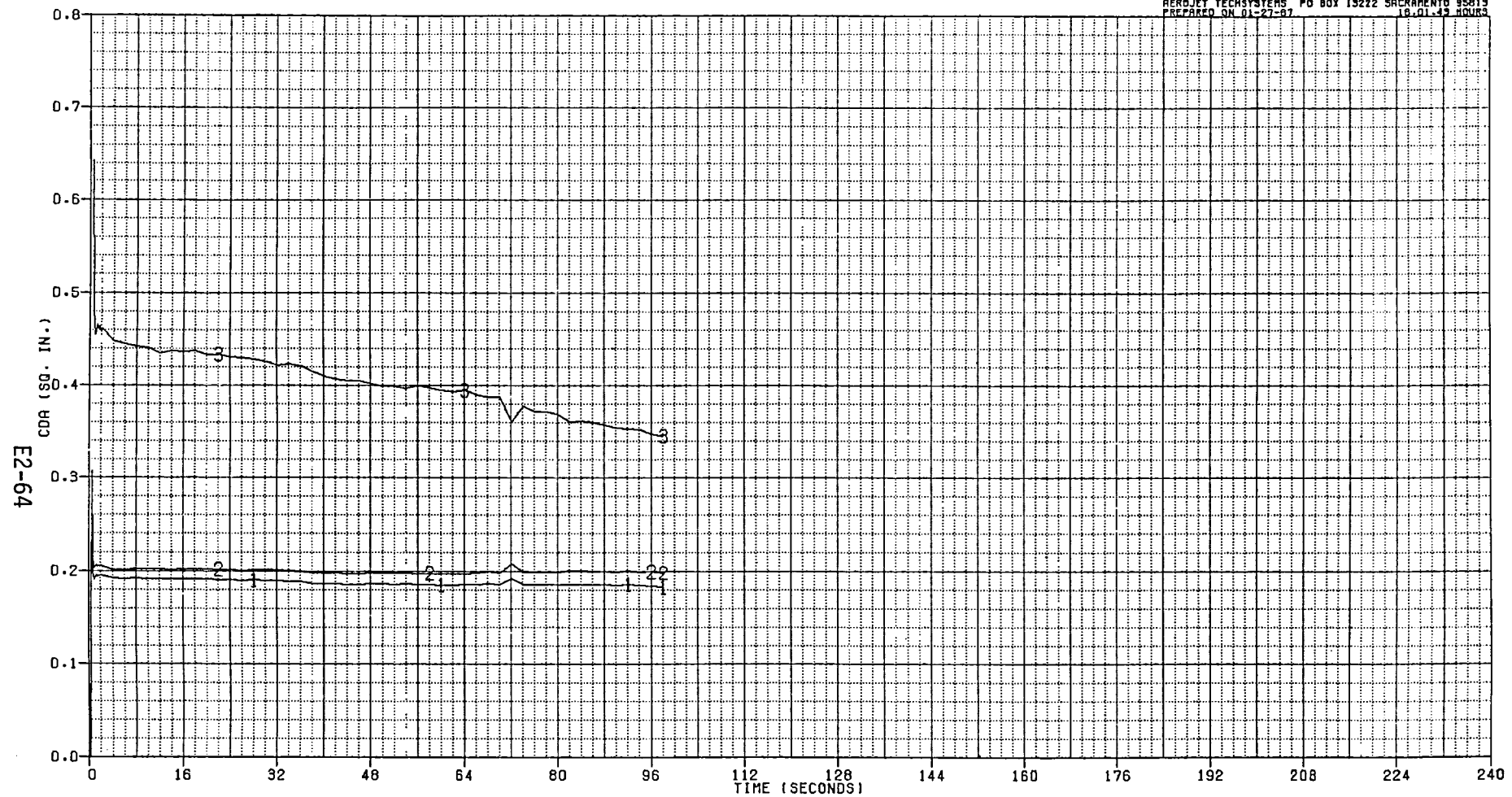


- 1 PRTR
- 2 PRTS
- 3 PRTSC
- 4 DPTR
- 5 DPTS
- 6 DPTSM

PSI
PSI
PSI

AEROJET
@TechSystems
COMPANY

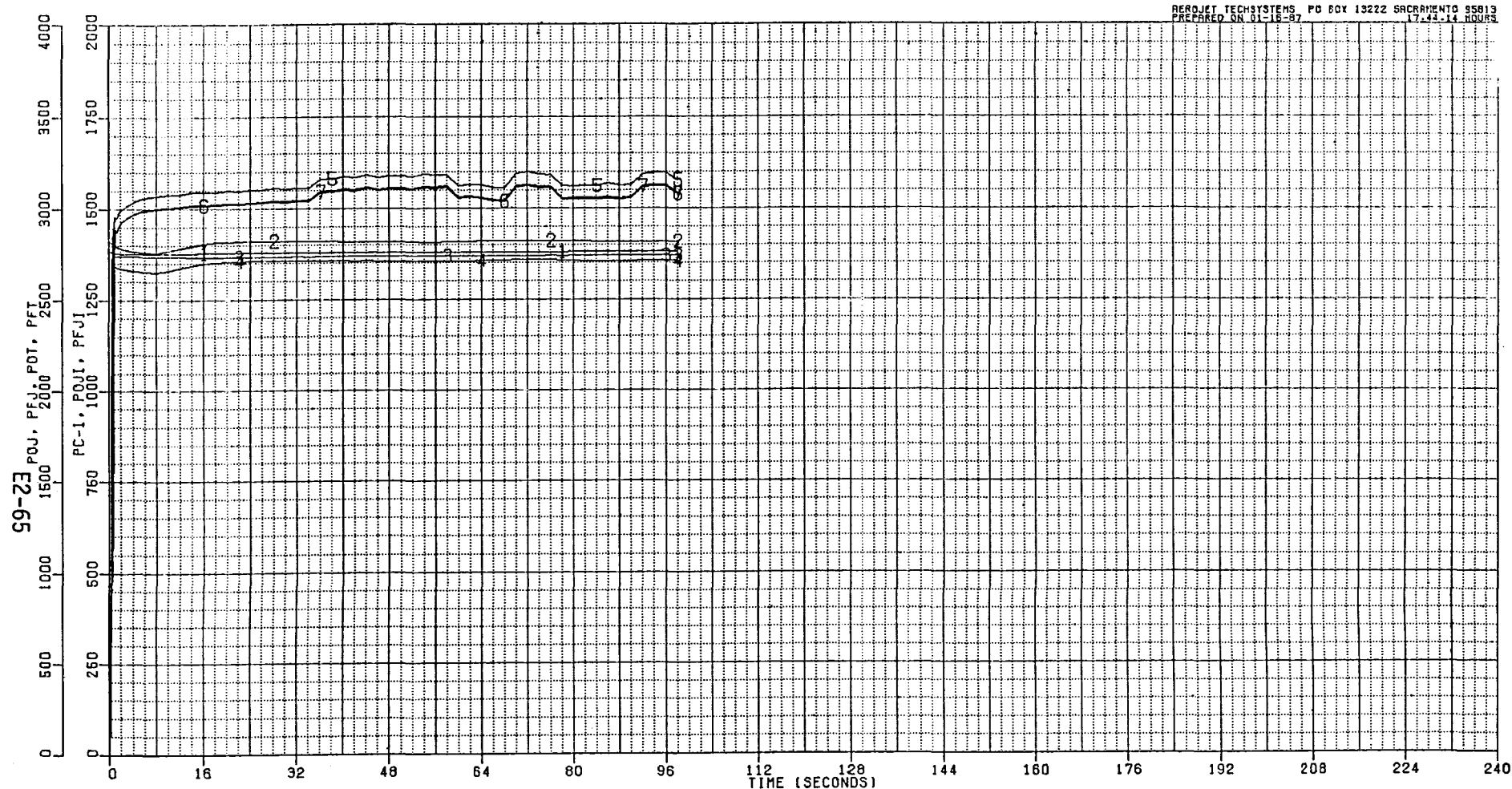
TURBINE BUILD-UP DATA VS TIME
TEST NO. 2427-936-A6-130
CHAMBER PRESSURE DROPS AND RATIOS
TEST DATE 03-02-84 1633 HOURS AVERAGED DATA



1 NA1 SQ. IN.
2 NA2 SQ. IN.
3 CDA

INJECTOR CALCULATIONS VS TIME
TEST NO. RLB6-936-130
NOZZLE AREA CHANGE
TEST DATE 03-02-84 1633 HOURS AVERAGED DATA





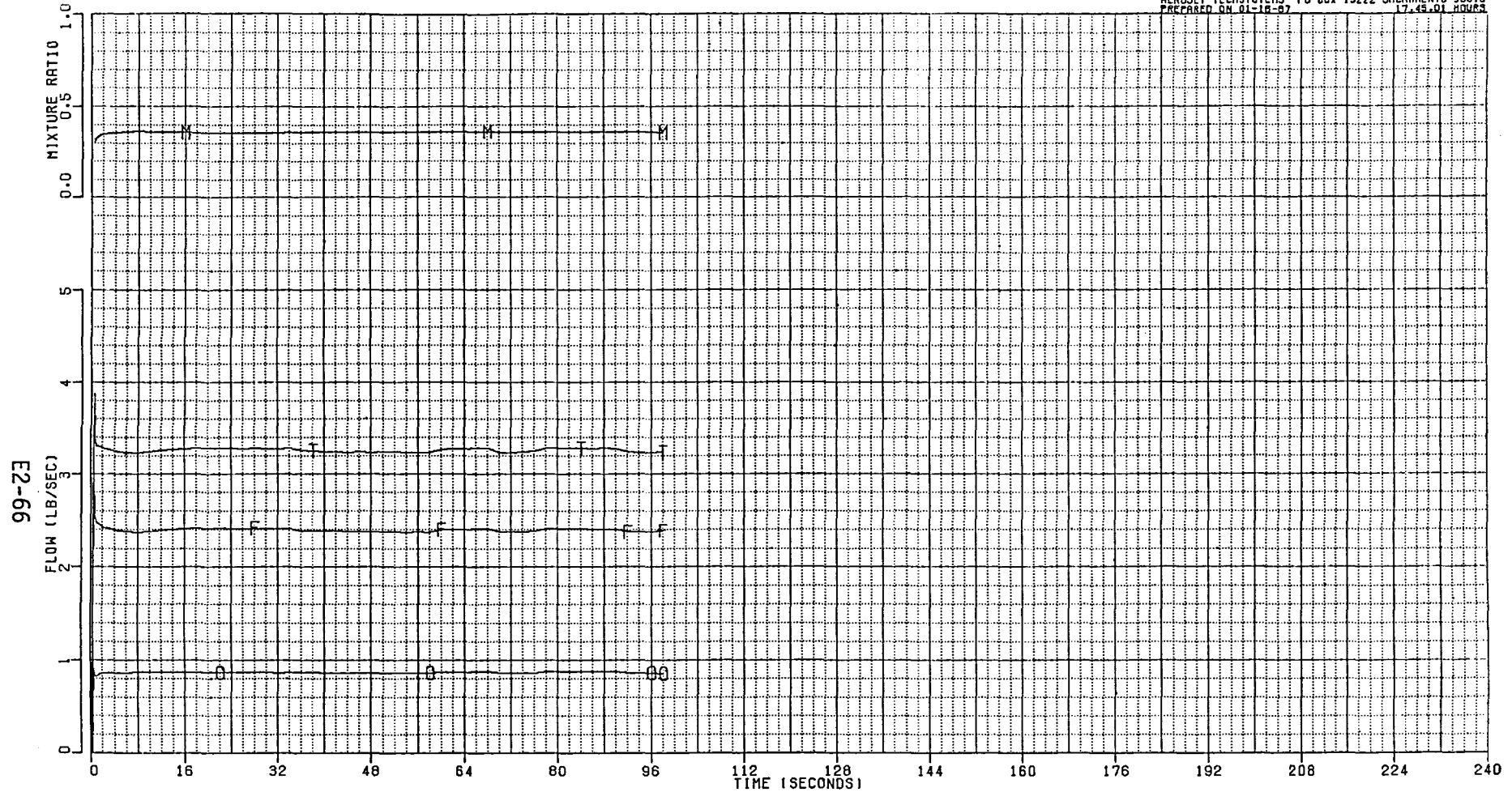
1 POT	PSIA
2 PFT	PSIA
3 POJ	PSIA
4 PFJ	PSIA
5 PC-1	PSIA
6 POJI	PSIA
7 PFJI	PSIA

AEROJET
TechSystems
 COMPANY

MEASURED PRESSURES VS TIME
 TEST NO. 2427-936-A6-131

TEST DATE 03-02-84 1713 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813
 PREPARED ON 01-18-87 17.42.14 HOURS

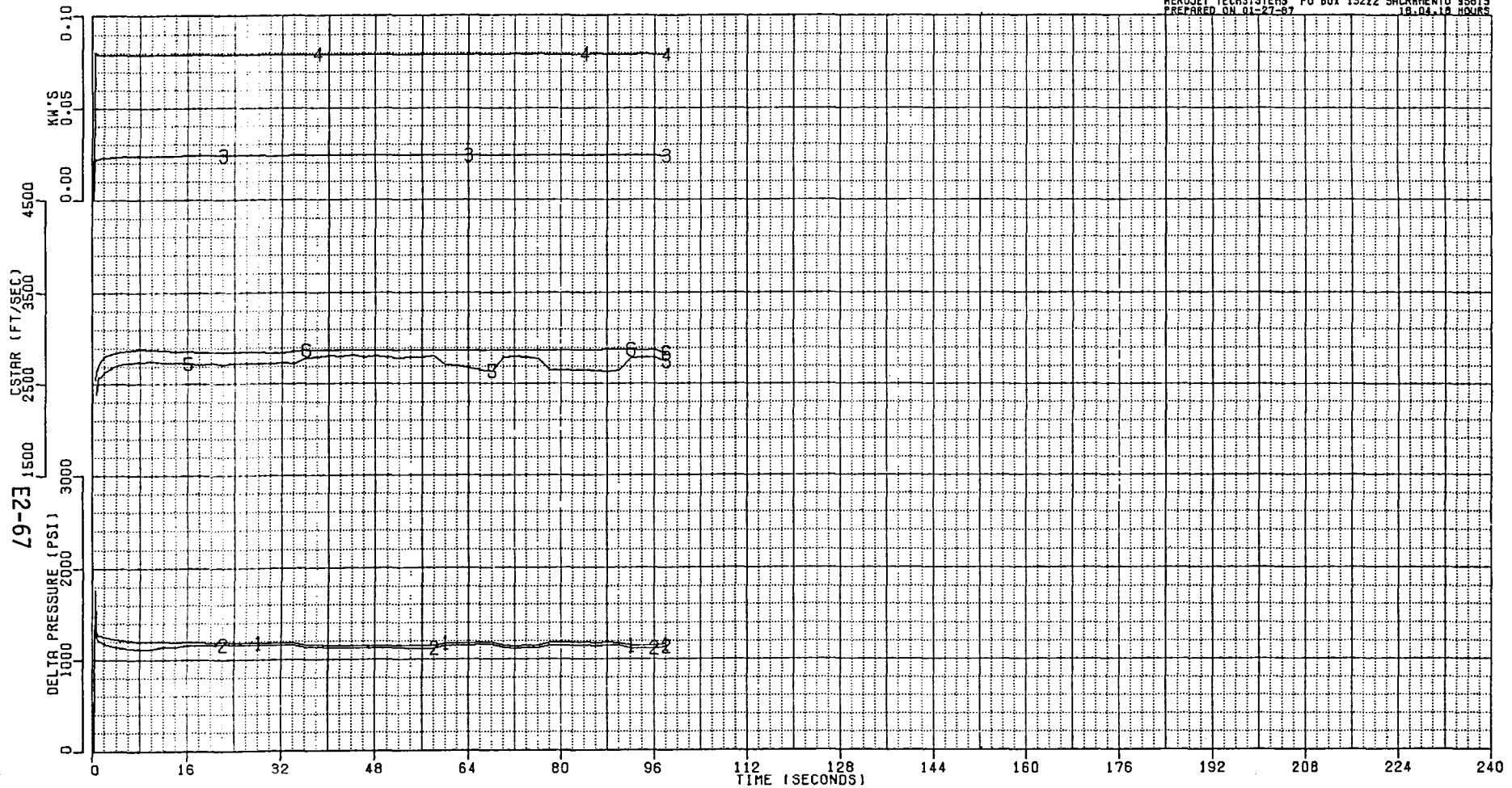


F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR

INJECTOR FLOW VS TIME
 TEST NO. 2427-936-A6-131

TEST DATE 03-02-84 1713 HOURS AVERAGED DATA





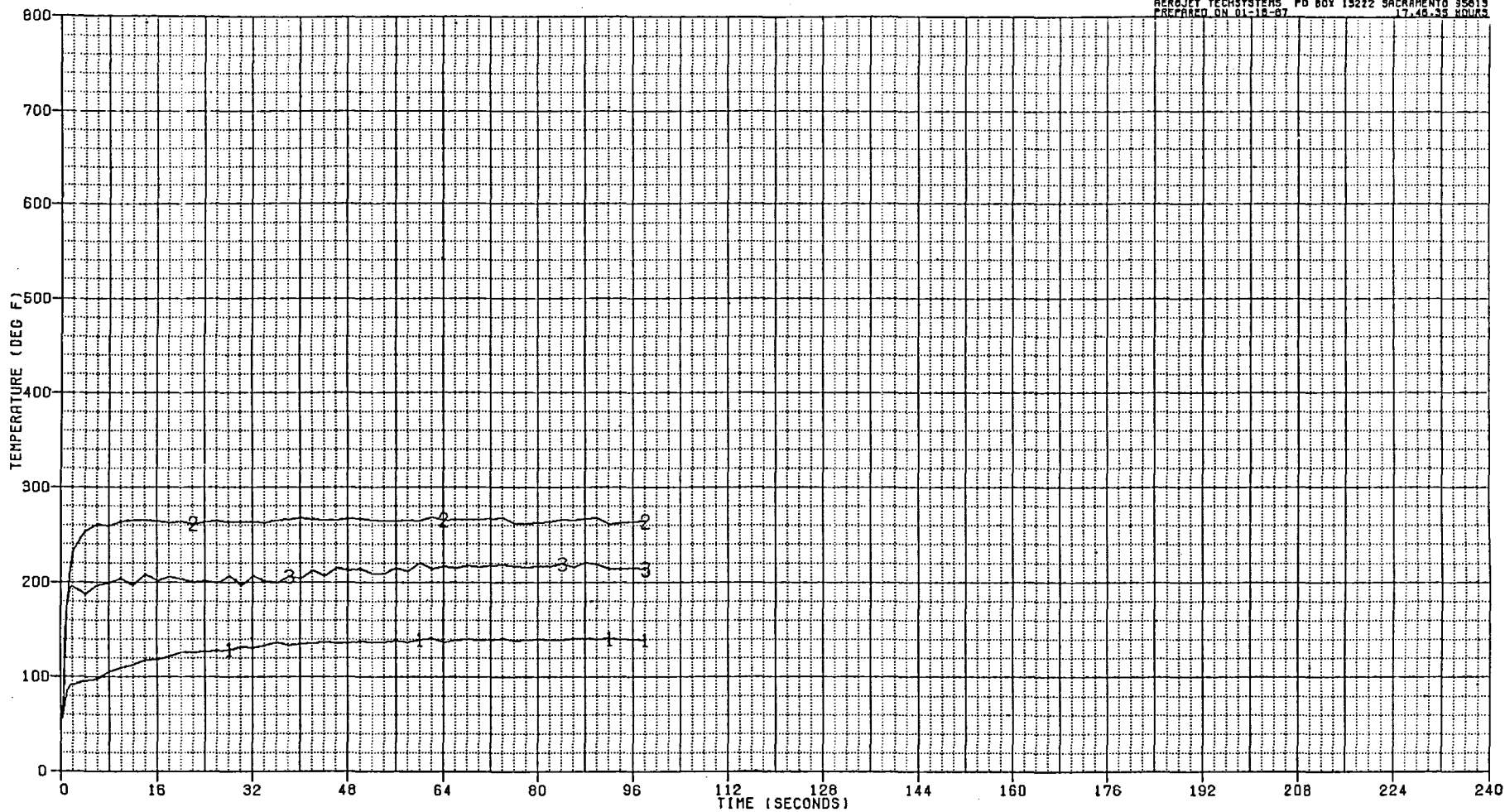
- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ
- 4 KWFJ
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

AEROJET
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 COMPANY

INJECTOR CALCULATIONS VS TIME
 TEST NO. RLB6-936-131

TEST DATE 03-02-84 1713 HOURS AVERAGED DATA

E2-68



- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME
TEST NO. 2427-936-A6-131
BARREL DATA
TEST DATE 03-02-84 1713 HOURS AVERAGED DATA



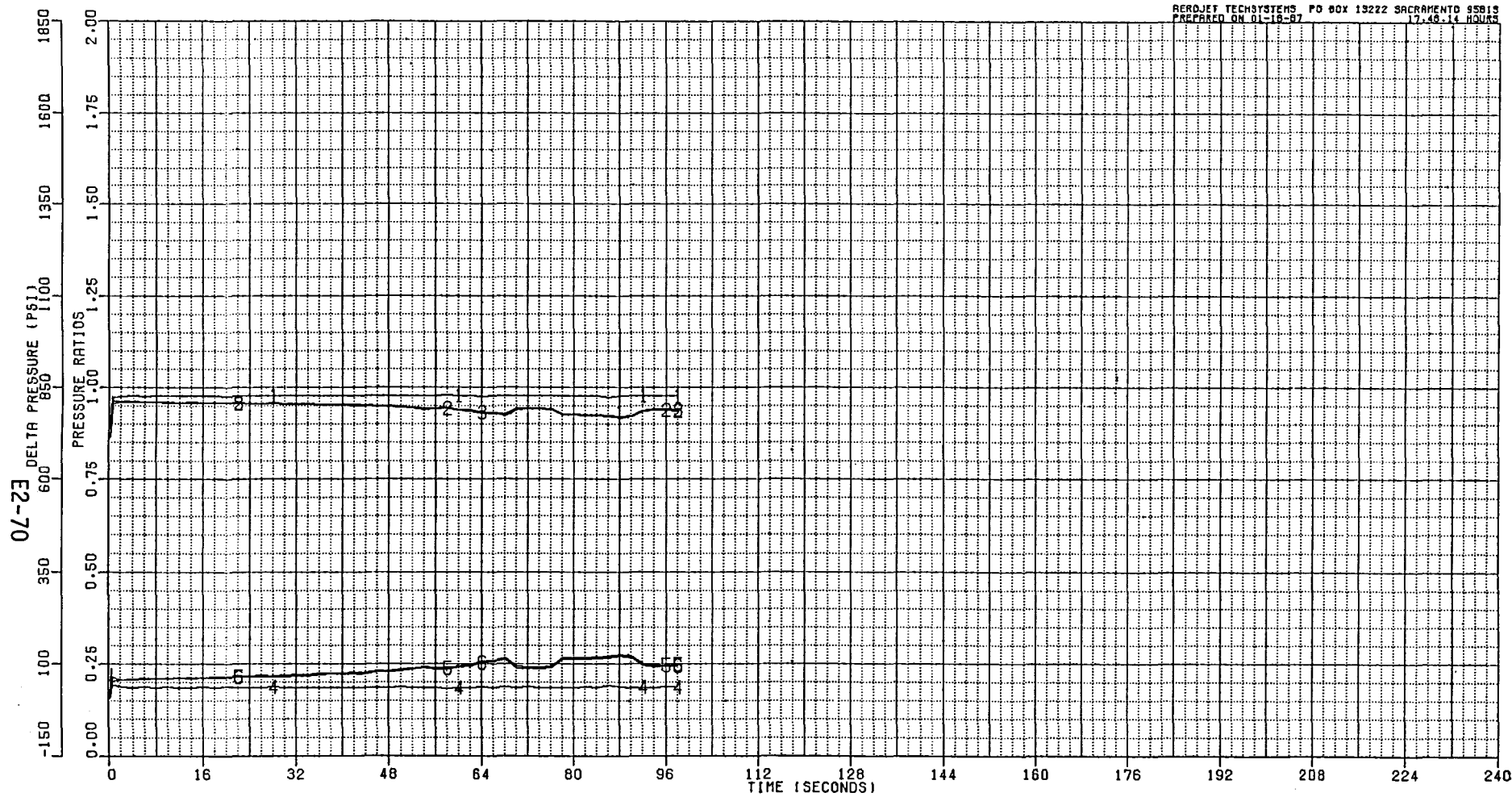


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F



COOLANT OUTLET TEMPERATURES VS TIME
 TEST NO. 2427-936-A6-131

TEST DATE 03-02-84 1713 HOURS AVERAGED DATA



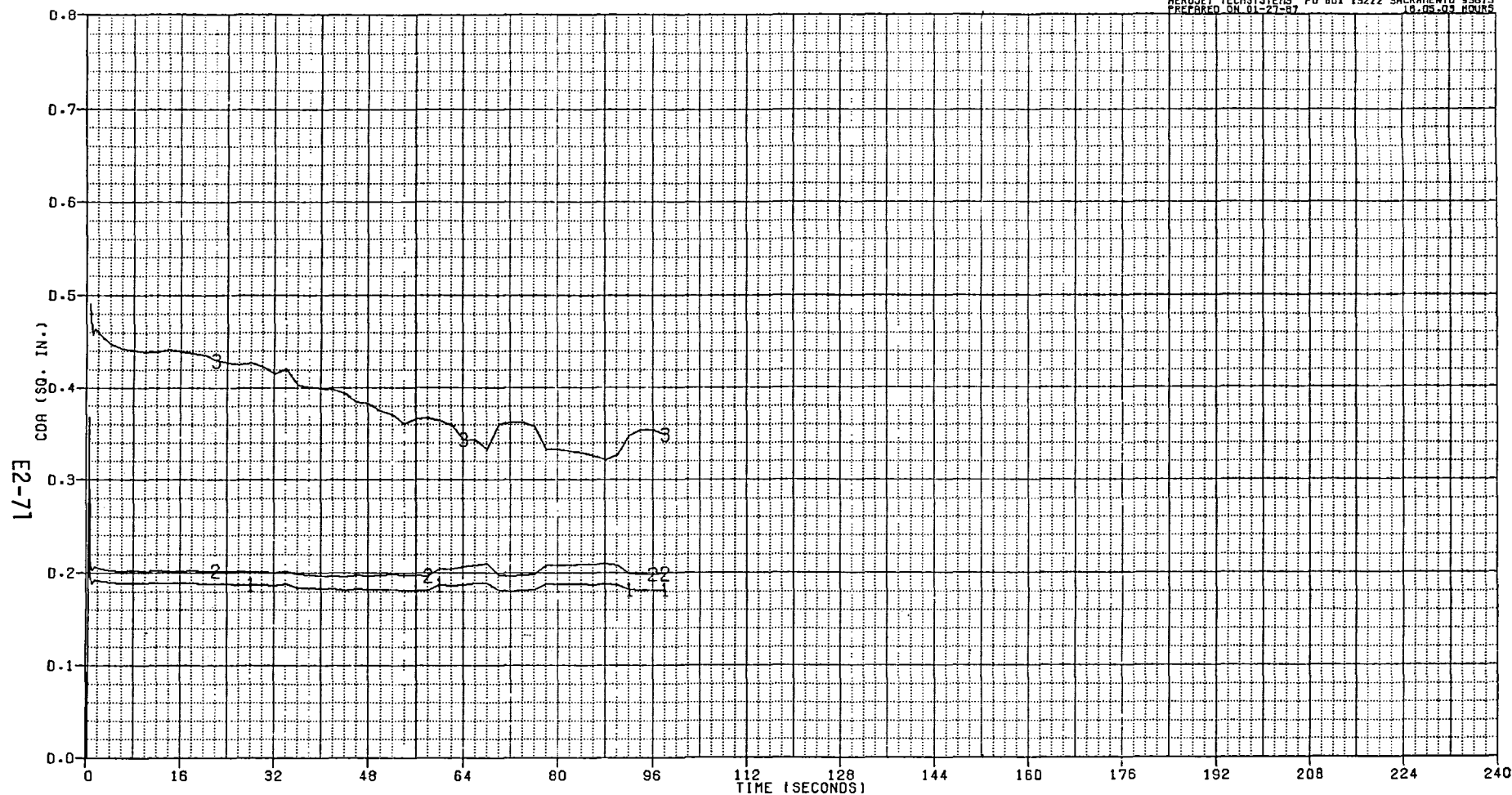
AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813
PREPARED ON 01-18-87 17:46:14 HOURS

- 1 PRTR PSI
- 2 PRTS PSI
- 3 PRTSC PSI
- 4 DPTR PSI
- 5 DPTS PSI
- 6 DPTSM PSI



TURBINE BUILD-UP DATA VS TIME
TEST NO. 2427-936-A6-131
CHAMBER PRESSURE DROPS AND RATIOS
TEST DATE 03-02-84 1713 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813
 PREPARED ON 01-27-87 16.05.03 HOURS



1 NA1 SQ. IN.
 2 NA2 SQ. IN.
 3 CDR

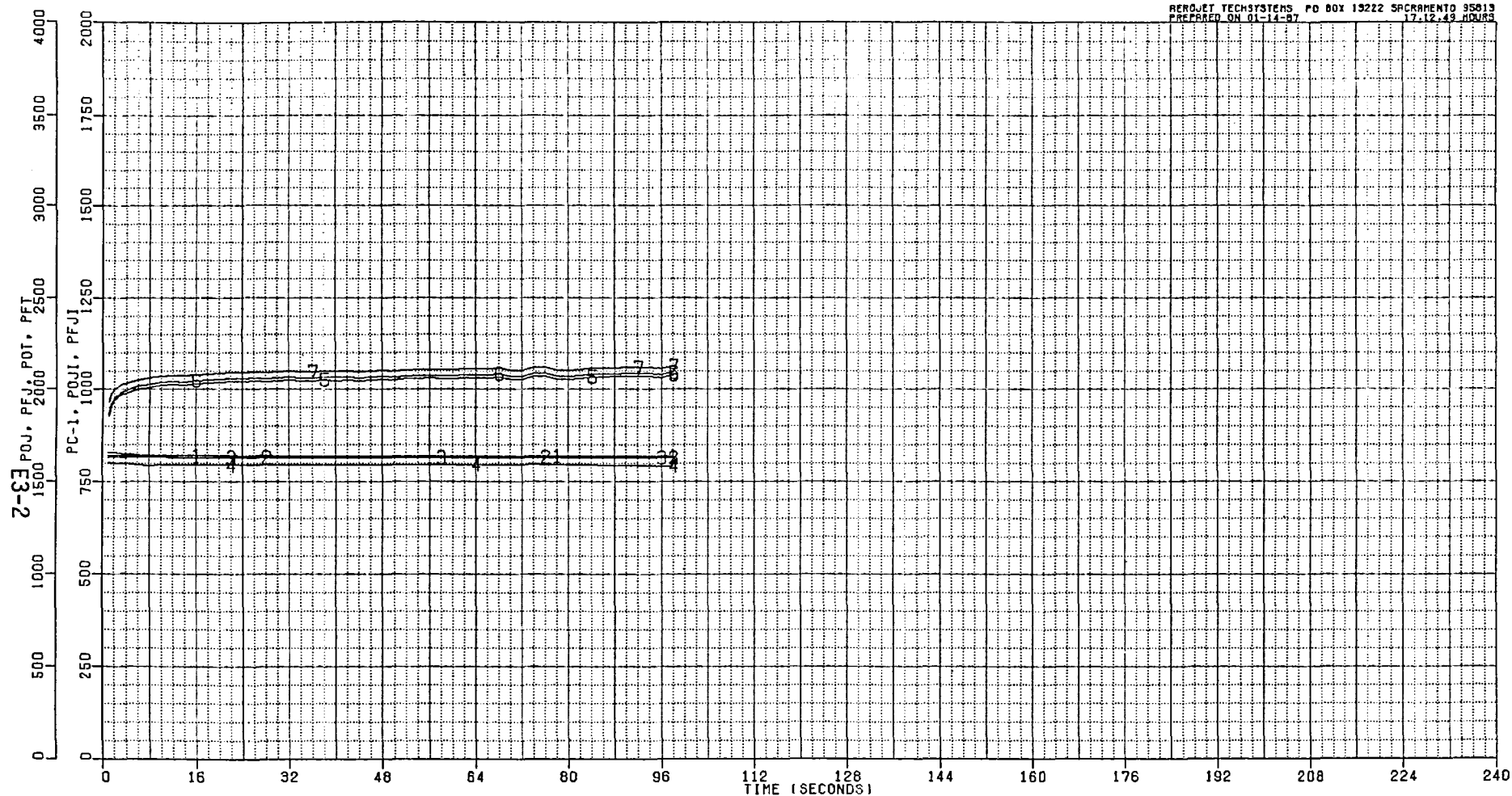
INJECTOR CALCULATIONS VS TIME
 TEST NO. RLB6-936-131
 NOZZLE AREA CHANGE
 TEST DATE 03-02-84 1713 HOURS AVERAGED DATA

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 COMPANY

APPENDIX E-3

1985 RP-1

GAS GENERATOR DATA PLOTS

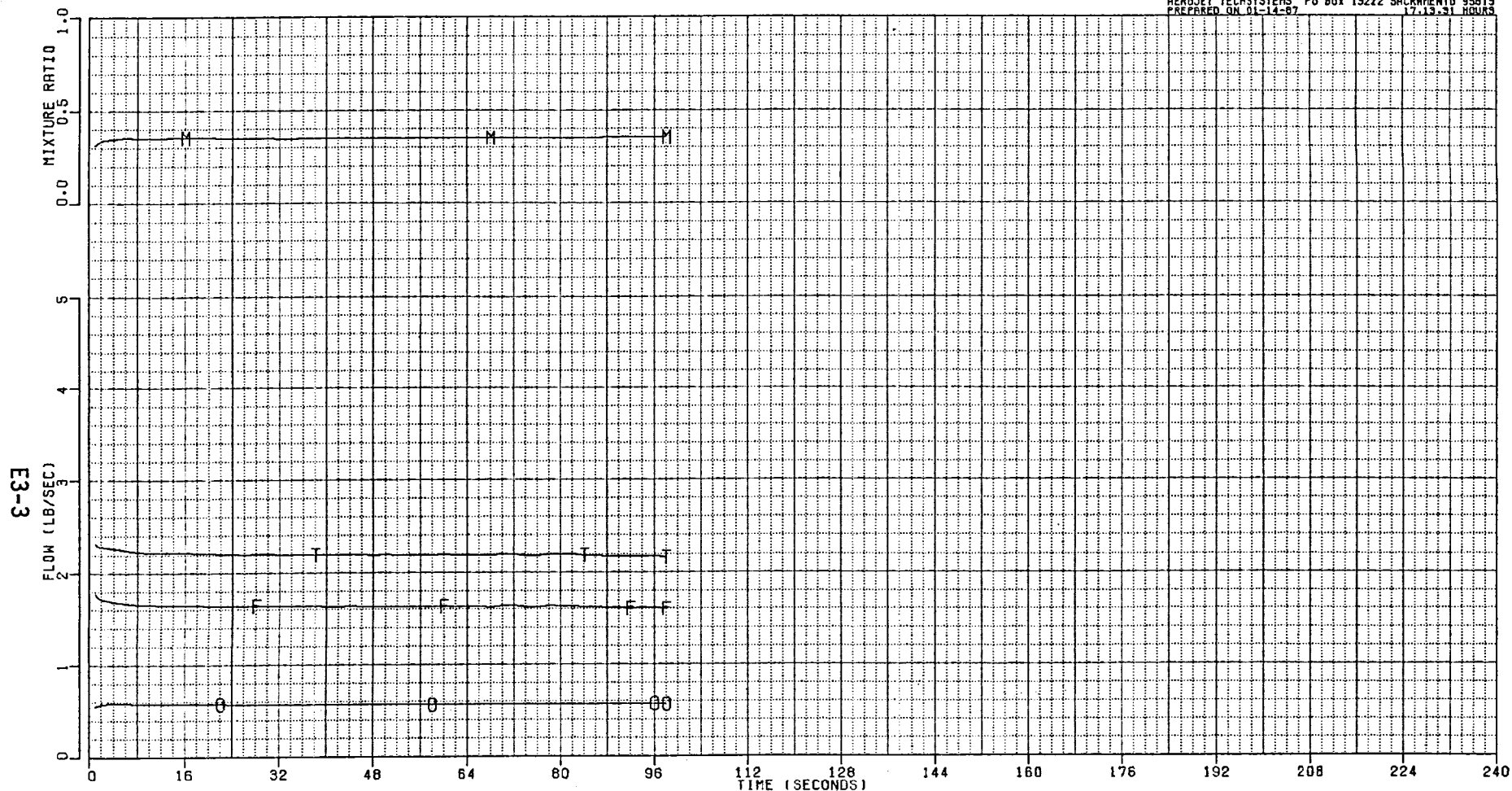


1 POT PSIA
2 PFT PSIA
3 POJ PSIA
4 PFJ PSIA
5 PC-1 PSIA
6 POJI PSIA
7 PFJI PSIA

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COMPANY

MEASURED PRESSURES VS TIME
TEST NO. 2427-936-A6-113

TEST DATE 10-23-85 1213 HOURS AVERAGED DATA

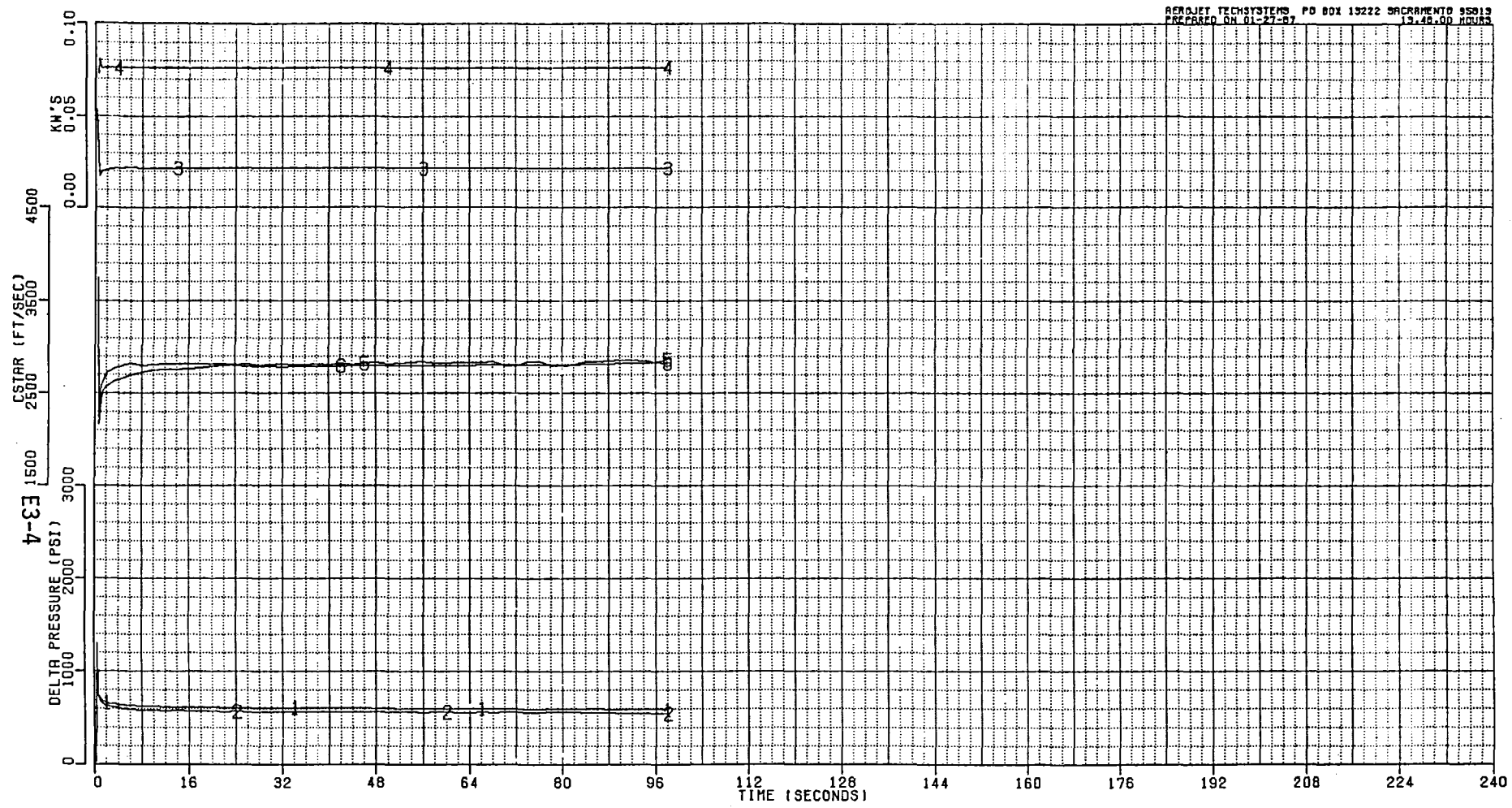


F WF LBS/SEC
 O WOX LBS/SEC
 T TOT LBS/SEC
 M MR

INJECTOR FLOW VS TIME
 TEST NO. 2427-936-A6-113

TEST DATE 10-23-85 1213 HOURS AVERAGED DATA

AEROJET
TechSystems
 COMPANY



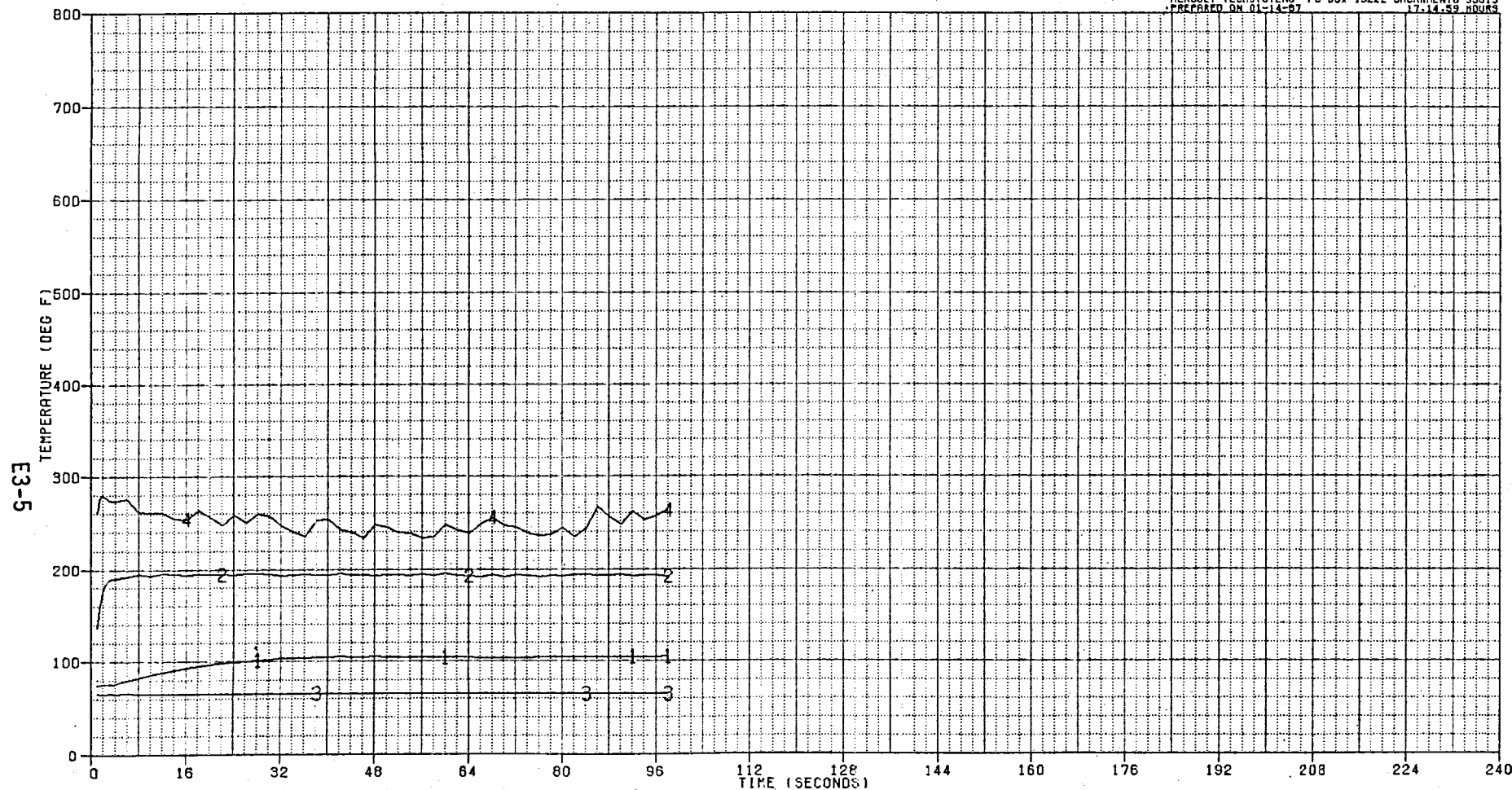
- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWQJ PSI
- 4 KWFJ PSI
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC



INJECTOR CALCULATIONS VS TIME TEST NO. 2427-936-A6-113

TEST DATE 10-23-85 1213 HOURS AVERAGED DATA

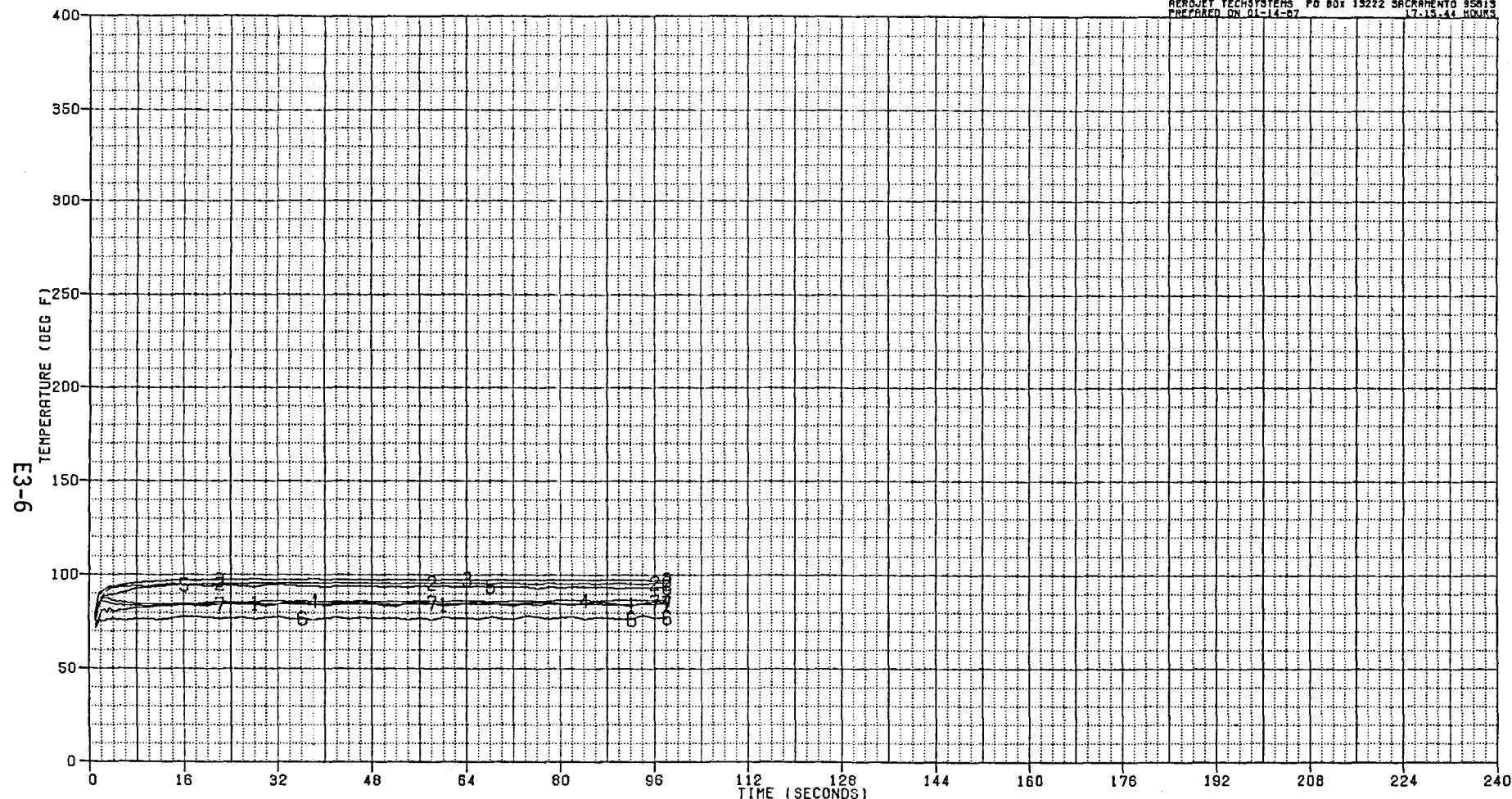
AEROJET TECHSYSTEMS, PO BOX 13212 SACRAMENTO 95813
 PREPARED ON 01-14-87 17:14:59 HOURS



- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME
 TEST NO. 2427-936-A6-113
 BARREL DATA
 TEST DATE 10-23-85 1213 HOURS AVERAGED DATA

AEROJET
@TechSystems
 COMPANY

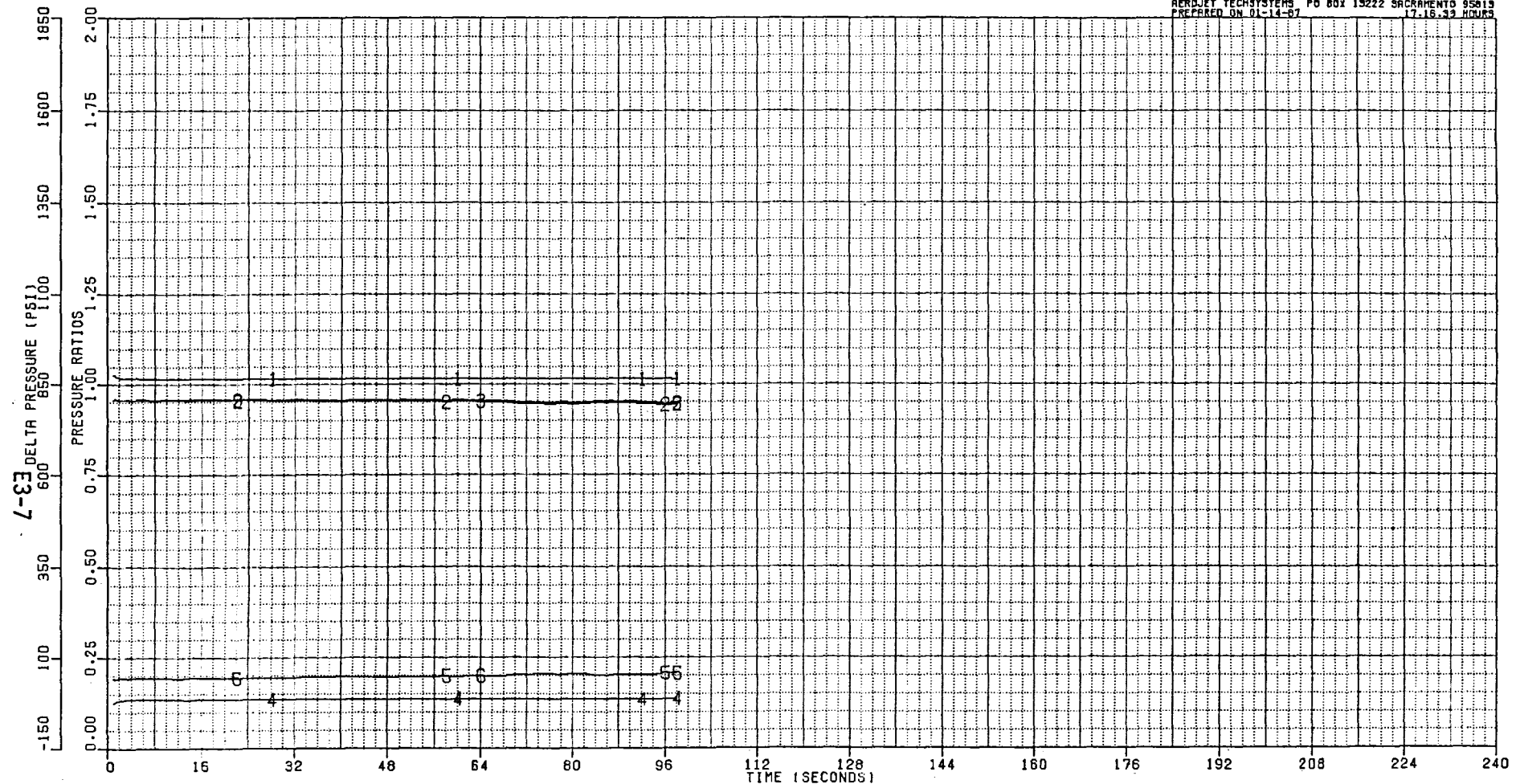


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

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COOLANT OUTLET TEMPERATURES VS TIME
 TEST NO. 2427-936-A6-113

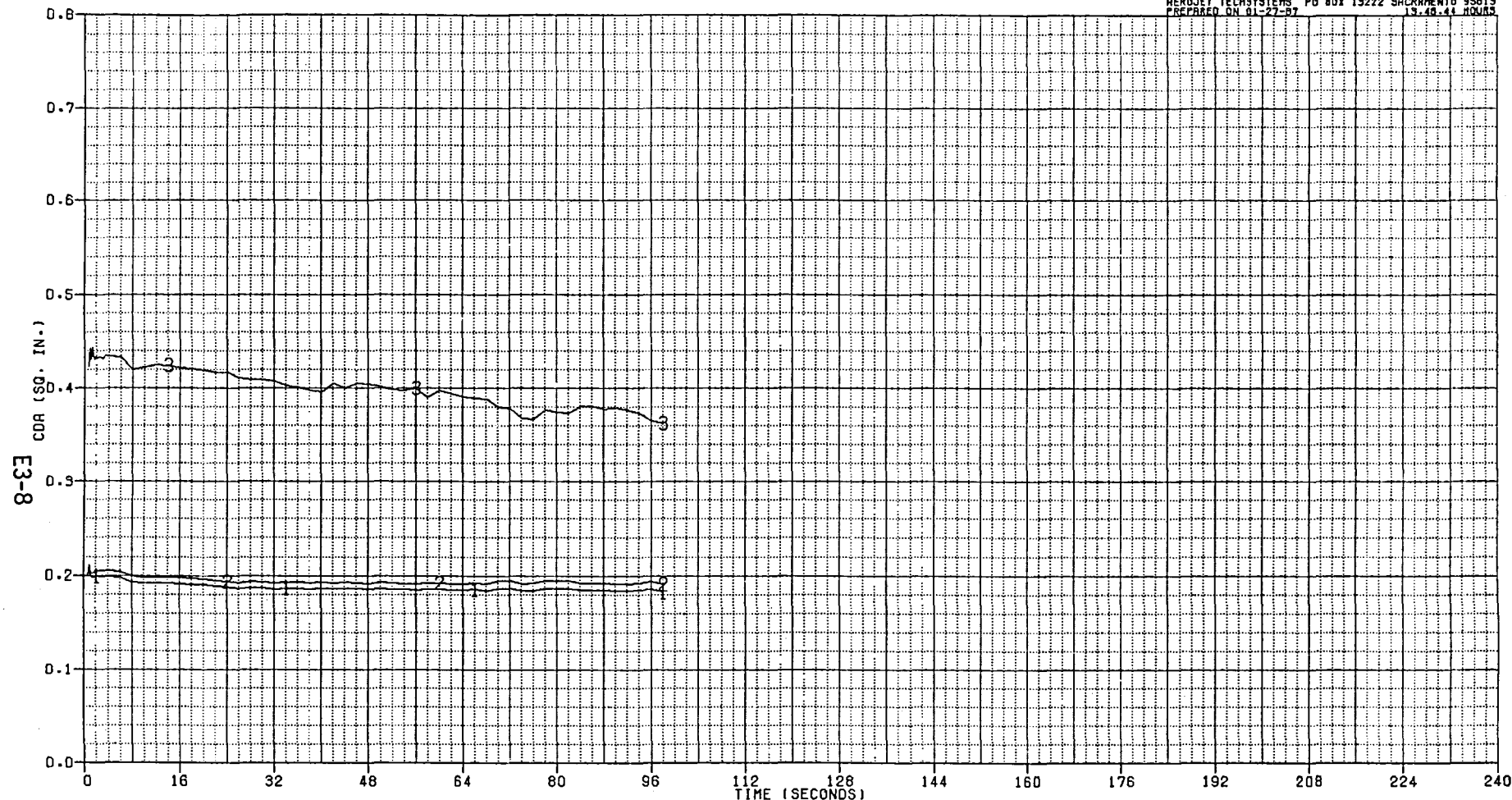
TEST DATE 10-23-85 1213 HOURS AVERAGED DATA



- 1 PRTR
 - 2 PRTS
 - 3 PRTS CORR
 - 4 DPTR
 - 5 DPTS-C
 - 6 DPTS
- PSI
 PSI
 PSI



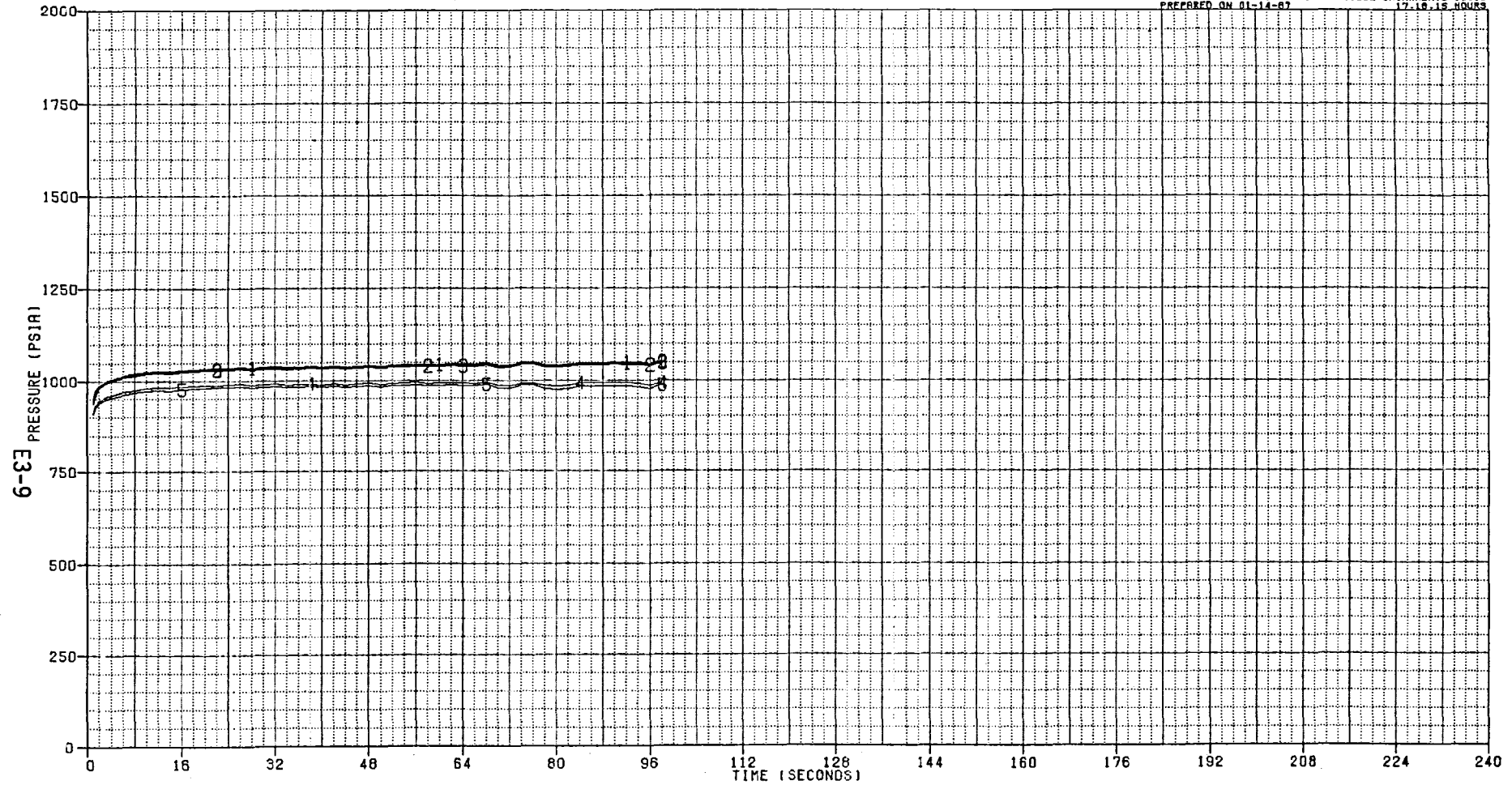
TURBINE BUILD-UP DATA VS TIME
 TEST NO. 2427-936-A6-113
 CHAMBER PRESSURE DROPS AND RATIOS
 TEST DATE 10-23-85 1213 HOURS AVERAGED DATA



1 NA1 SQ. IN.
 2 NA2 SQ. IN.
 3 CDR

INJECTOR CALCULATIONS VS TIME
 TEST NO. 2427-936-A6-113
 NOZZLE AREA CHANGE
 TEST DATE 10-23-85 1213 HOURS AVERAGED DATA

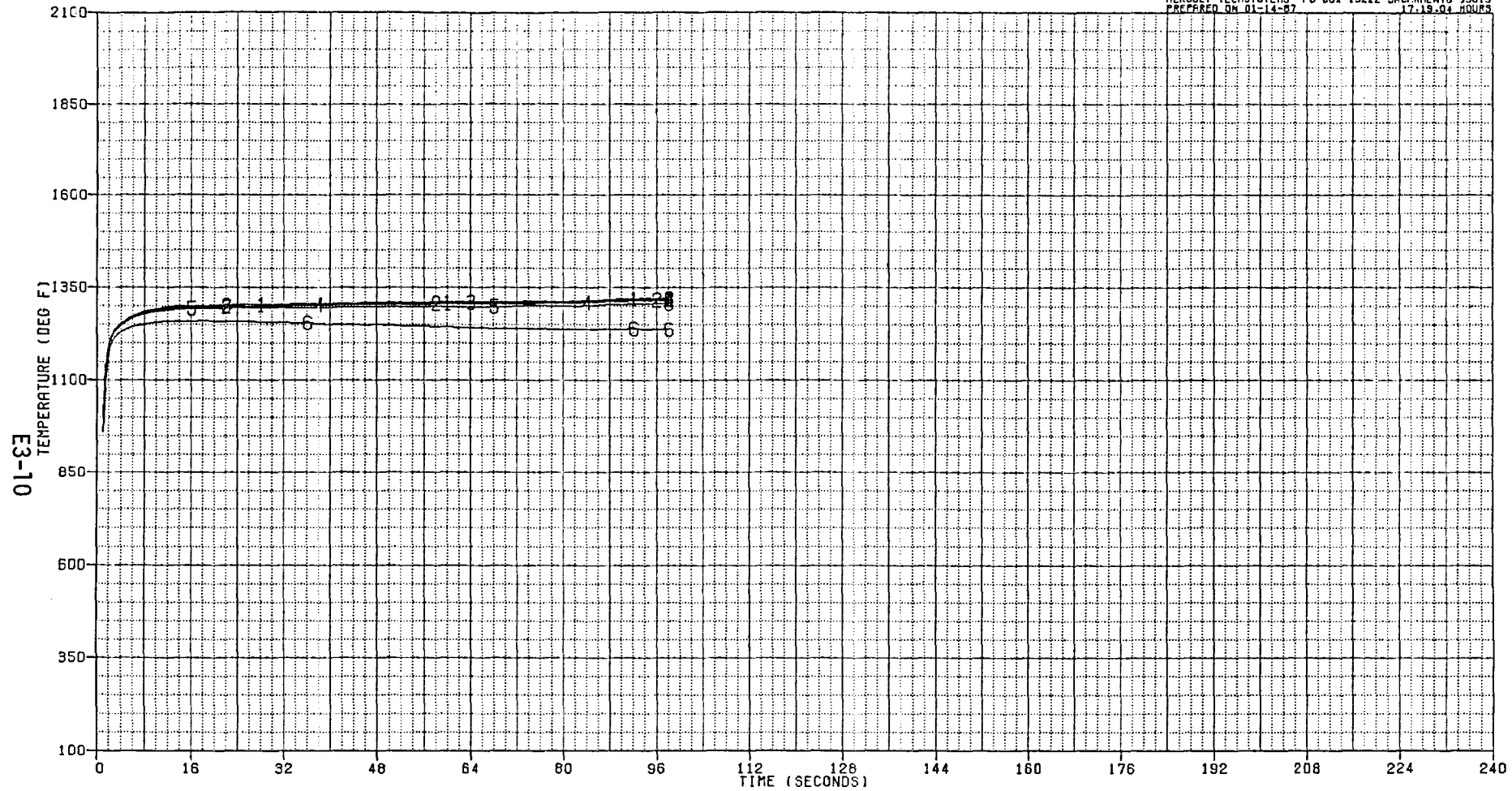
AEROJET
TechSystems
 COMPANY



- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



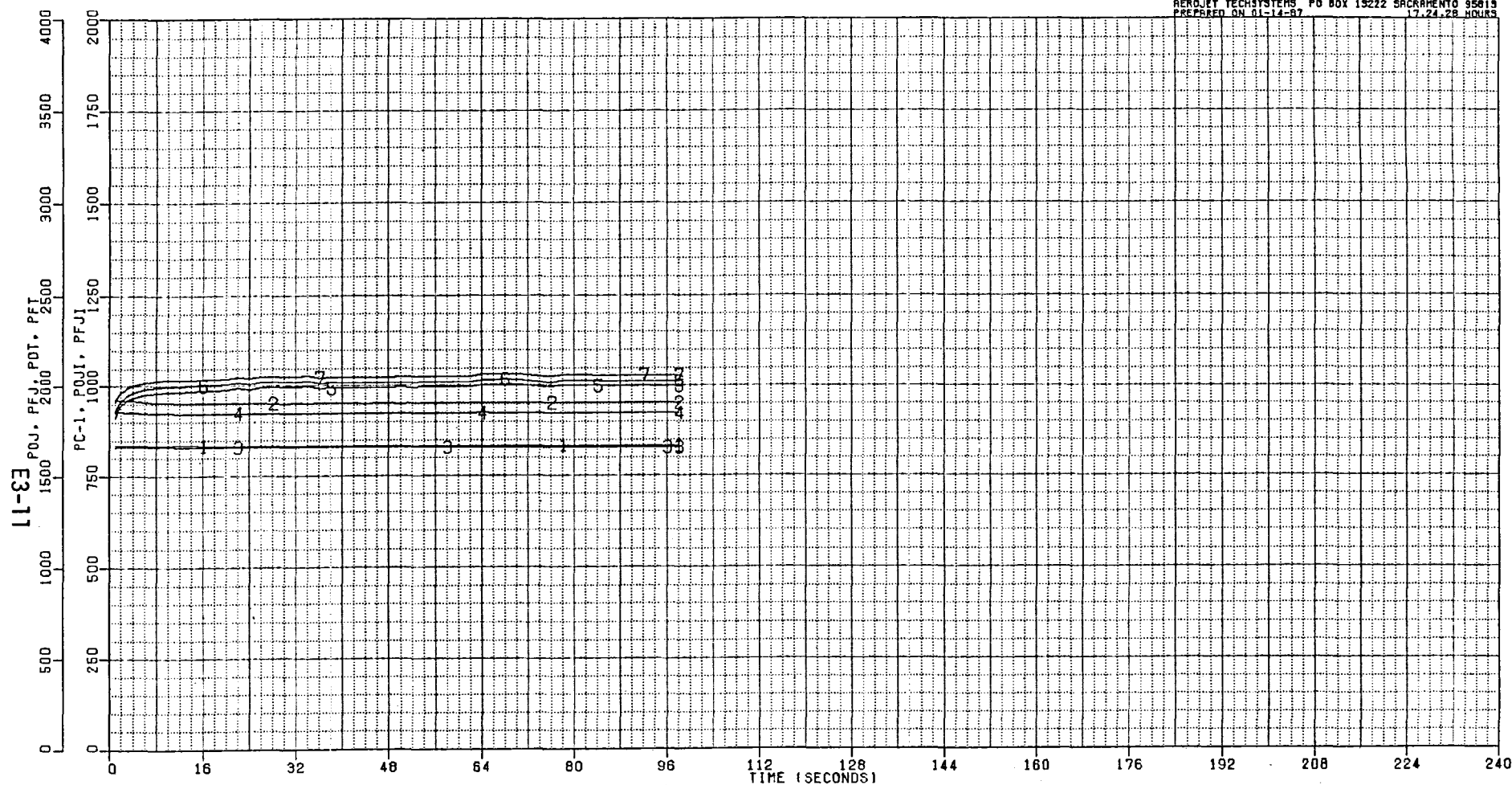
TURBINE BUILD-UP DATA VS TIME
 TEST NO. 2427-936-A6-113
 PRESSURE MEASUREMENTS
 TEST DATE 10-23-85 1213 HOURS AVERAGED DATA



1 TCR-1 DEG F
 2 TCR-2 DEG F
 3 TCR-3 DEG F
 4 TCR-4 DEG F
 5 TCR-5 DEG F
 6 TCR-6 DEG F

AEROJET
TechSystems
 COMPANY

GAS TEMPERATURES VS TIME
 TEST NO. 2427-936-A6-113
 PRESSURE MEASUREMENTS
 TEST DATE 10-23-85 1213 HOURS AVERAGED DATA



- | | |
|--------|------|
| 1 POT | PSIA |
| 2 PFT | PSIA |
| 3 POJ | PSIA |
| 4 PFJ | PSIA |
| 5 PC-1 | PSIA |
| 6 POJI | PSIA |
| 7 PFJI | PSIA |

AEROJET

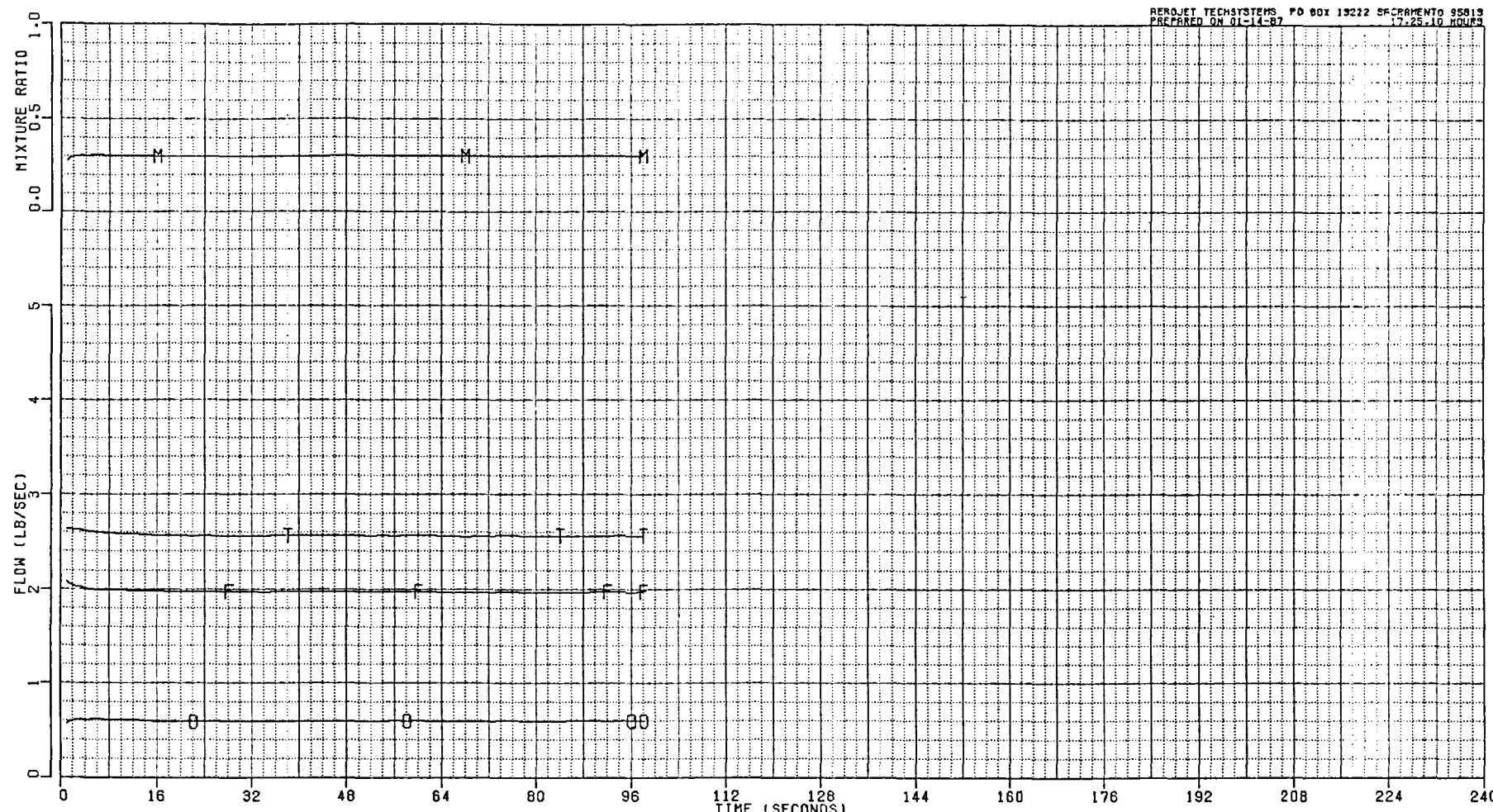
 COMPANY

MEASURED PRESSURES VS TIME
 TEST NO. 2427-936-A6-115

TEST DATE 10-23-85 1418 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813
 PREPARED ON 01-14-87 17:24:28 HOURS

E3-12

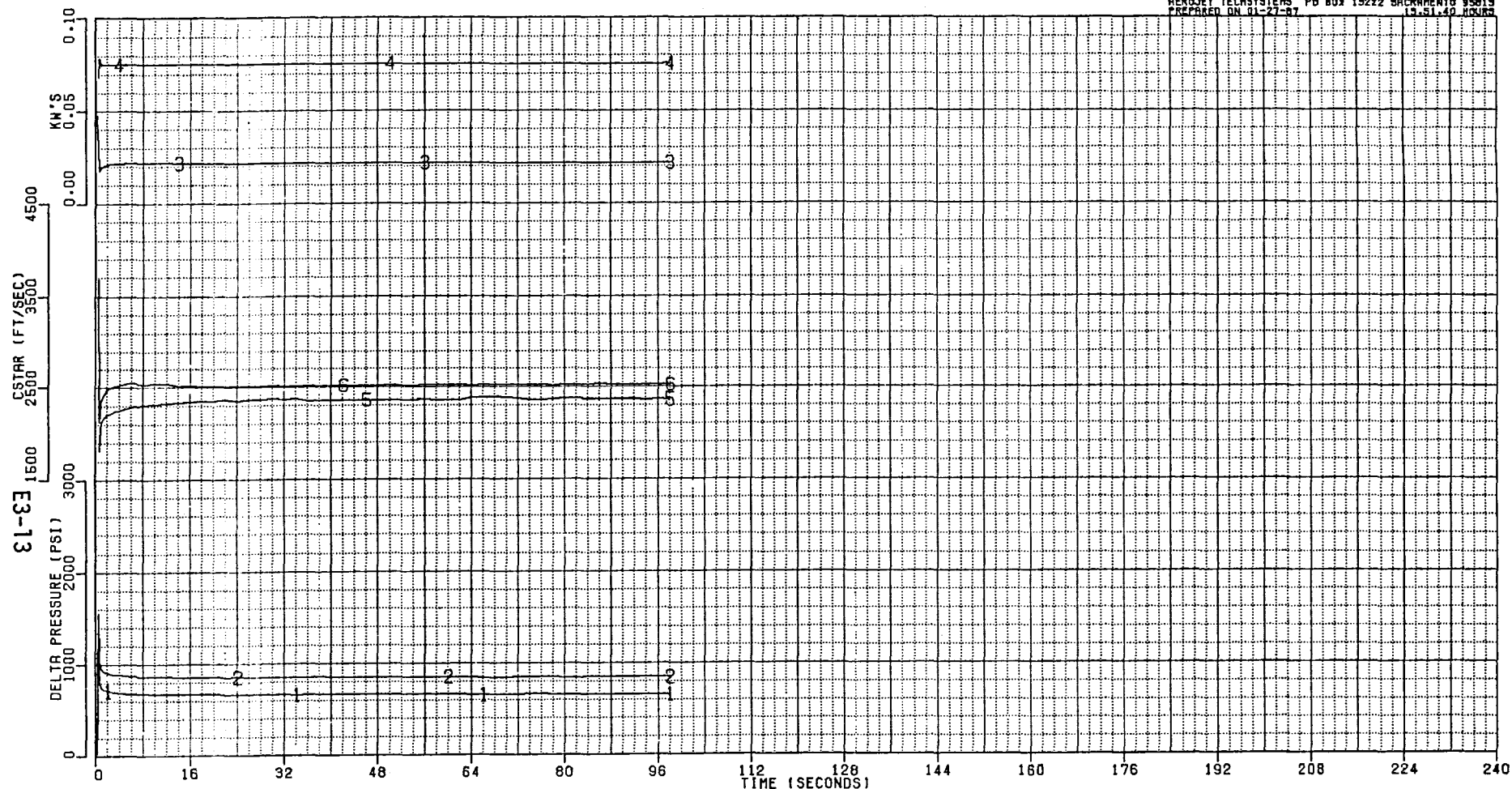


F WF LBS/SEC
 O WOX LBS/SEC
 T WTOT LBS/SEC
 M MR

INJECTOR FLOW VS TIME
 TEST NO. 2427-936-A6-115

TEST DATE 10-23-85 1418 HOURS AVERAGED DATA



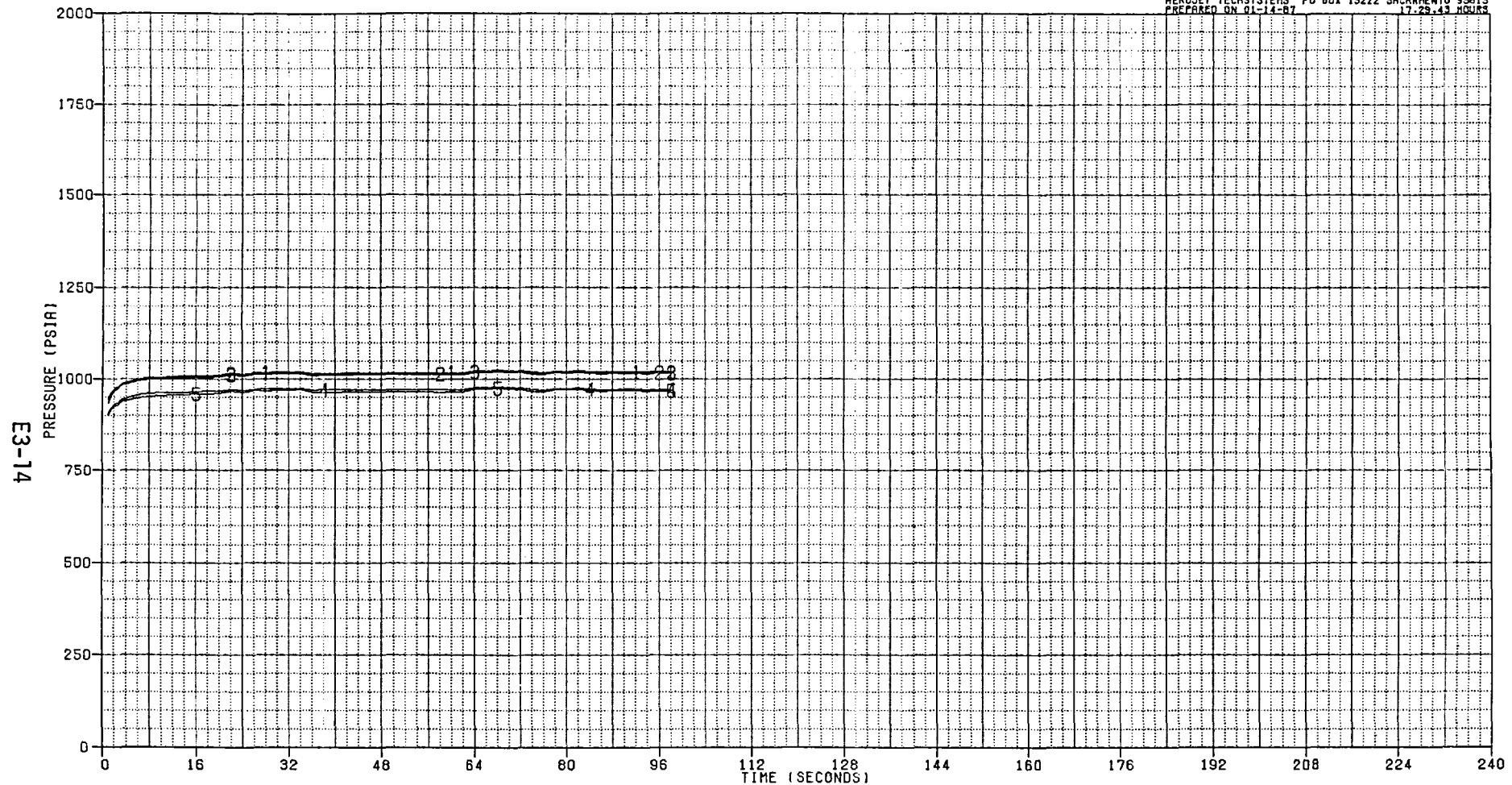


1 DPOJ PSI
2 DPFJ PSI
3 KWOJ
4 KWFJ
5 CSTRPB FT/SEC
6 CSTAR FT/SEC

INJECTOR CALCULATIONS VS TIME
TEST NO. 2427-936-A6-115

TEST DATE 10-23-85 1418 HOURS AVERAGED DATA

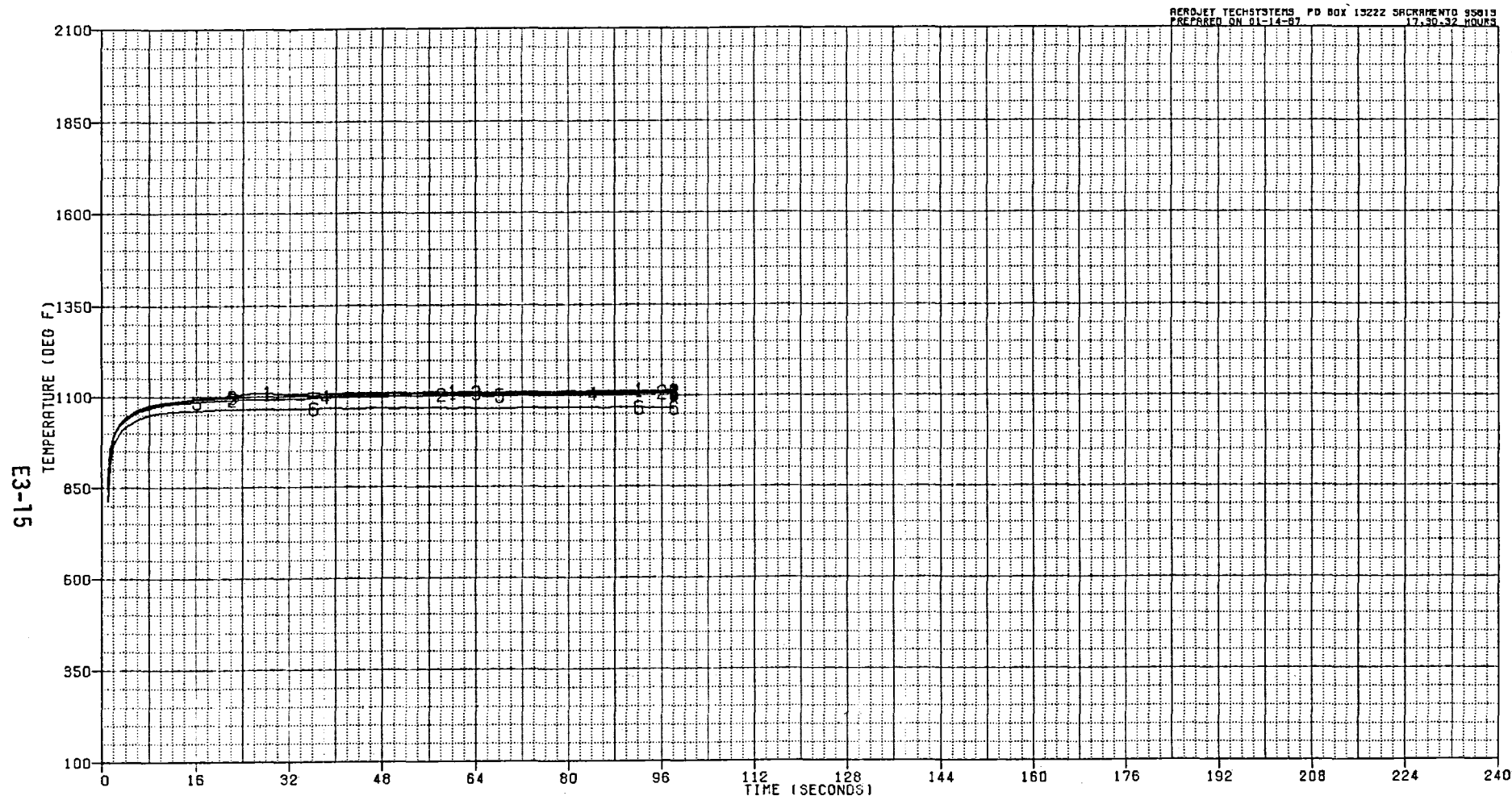
RENJOET
TechSystems
COMPANY



- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



TURBINE BUILD-UP DATA VS TIME
 TEST NO. 2427-936-A6-115
 PRESSURE MEASUREMENTS
 TEST DATE 10-23-85 1418 HOURS AVERAGED DATA

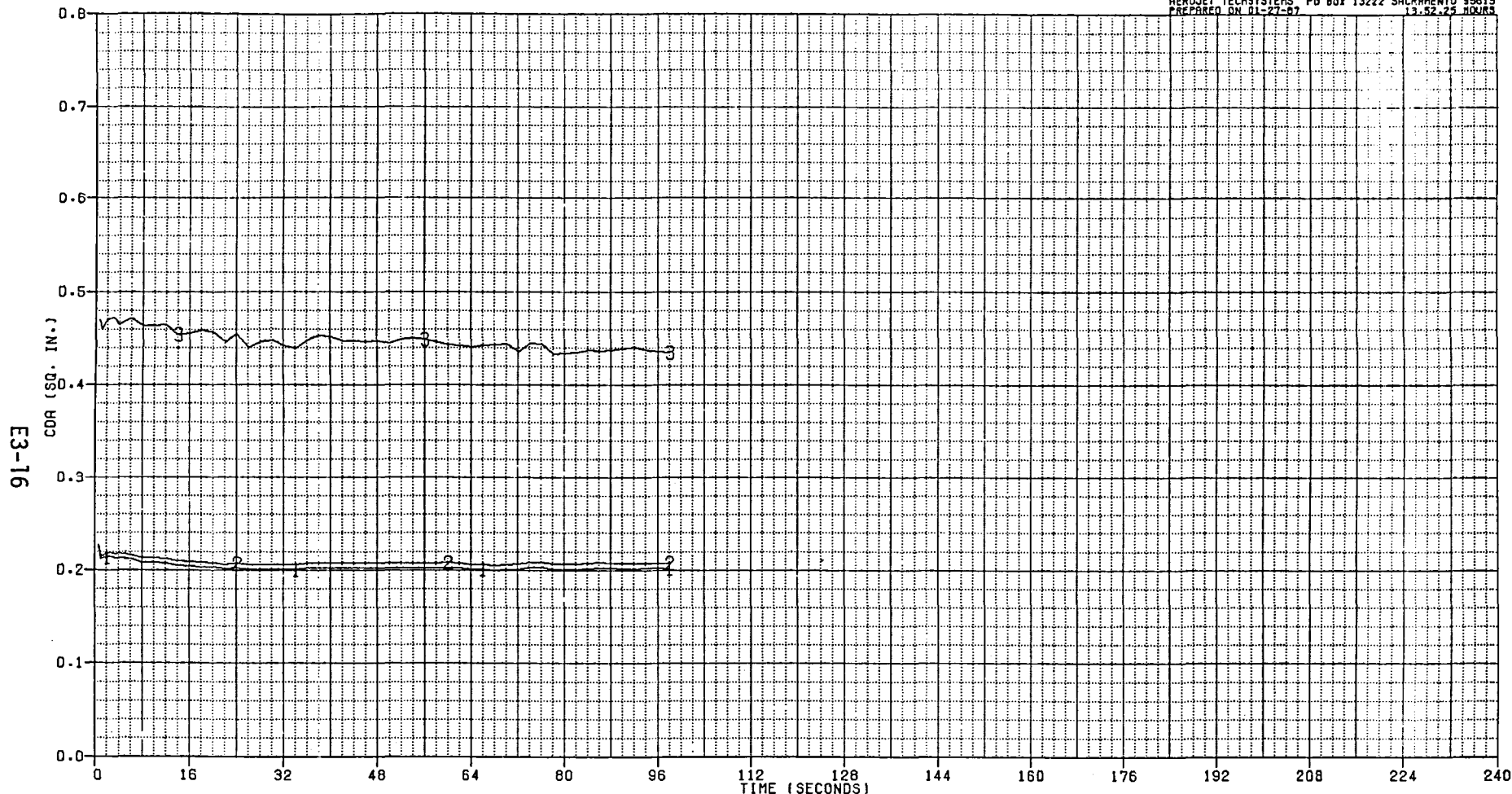


1 TCR-1 DEG F
2 TCR-2 DEG F
3 TCR-3 DEG F
4 TCR-4 DEG F
5 TCR-5 DEG F
6 TCR-6 DEG F

AEROJET
TechSystems
COMPANY

GAS TEMPERATURES VS TIME
TEST NO. 2427-936-A6-115
PRESSURE MEASUREMENTS
TEST DATE 10-23-85 1418 HOURS

AVERAGED DATA

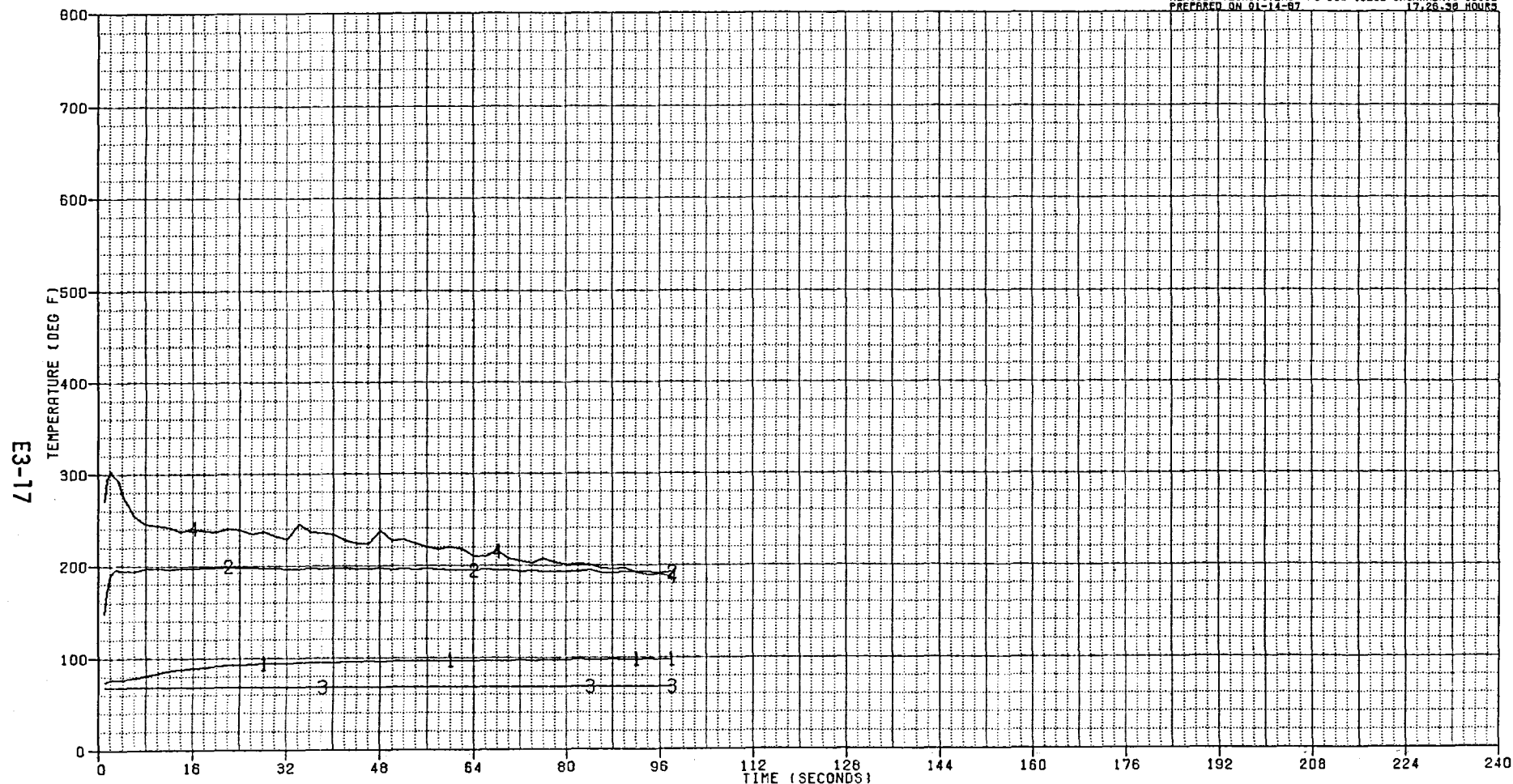


1 NR1 SQ. IN.
 2 NR2 SQ. IN.
 3 COA

INJECTOR CALCULATIONS VS TIME
 TEST NO. 2427-936-A6-115
 NOZZLE AREA CHANGE
 TEST DATE 10-23-85 1418 HOURS AVERAGED DATA



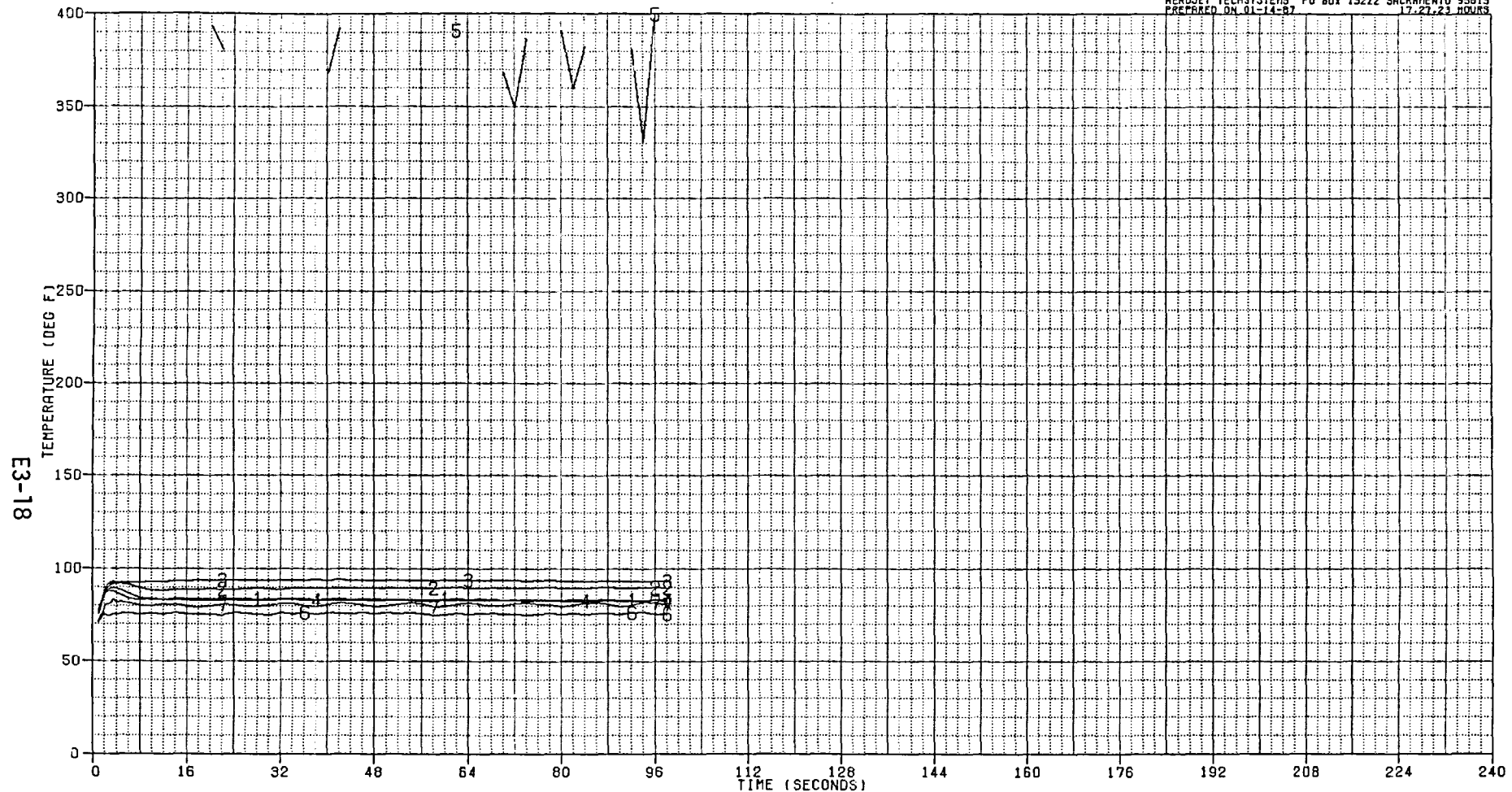
AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813
 PREPARED ON 01-14-87 17:26:38 HOURS



1 TC-7 DEG F
 2 TC-10 DEG F
 3 TC-11 DEG F
 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME
 TEST NO. 2427-936-A6-115
 BARREL DATA
 TEST DATE 10-23-85 1418 HOURS AVERAGED DATA

AEROJET
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 COMPANY



1 TWC-2 DEG F
2 TWC-26 DEG F
3 TWC-27 DEG F
4 TWC-31 DEG F
5 TWC-32 DEG F
6 TWC-33 DEG F
7 TC-7C DEG F

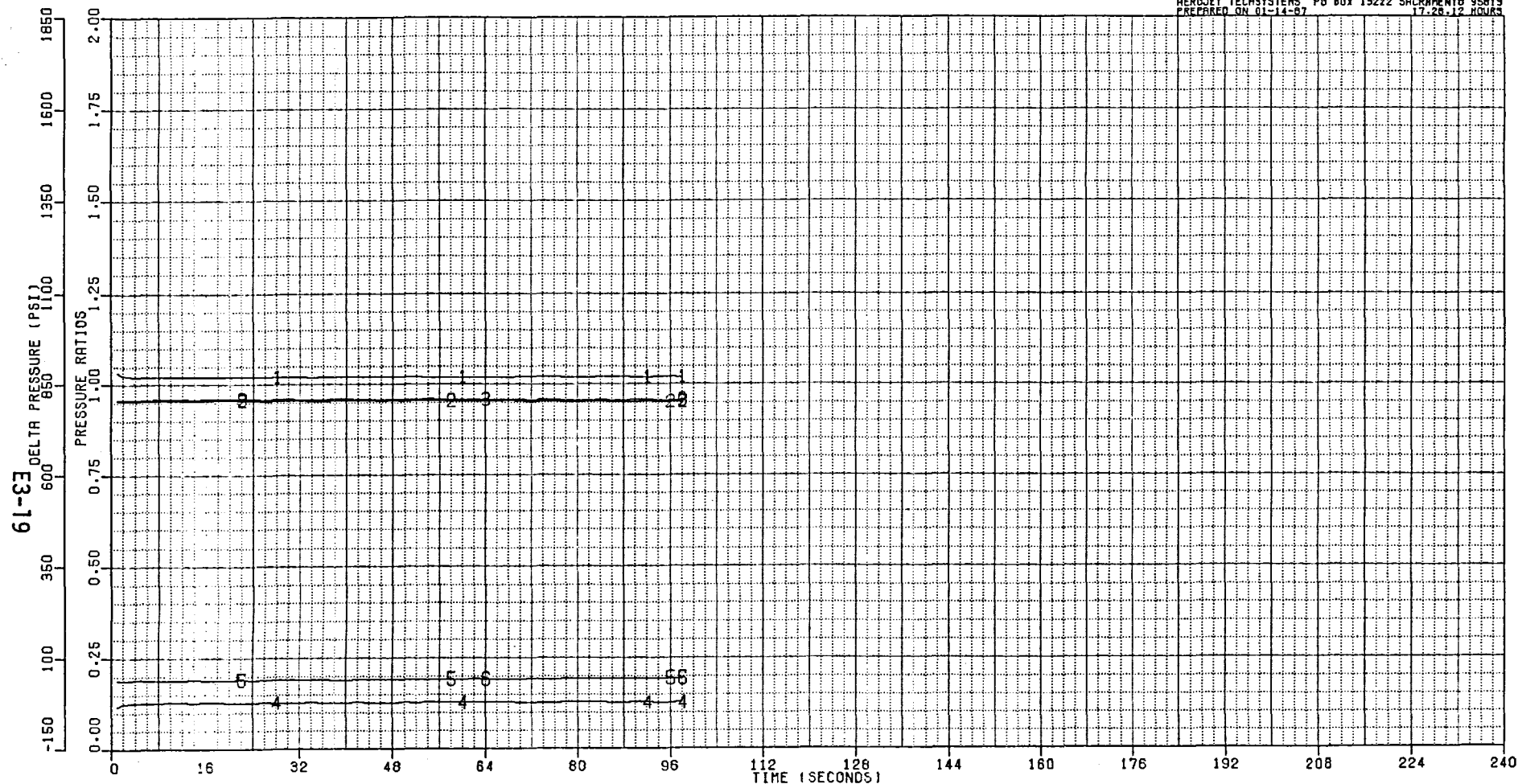
AEROJET
TechSystems
COMPANY

COOLANT OUTLET TEMPERATURES VS TIME
TEST NO. 2427-936-A6-115

TEST DATE 10-23-85 1418 HOURS AVERAGED DATA

PREPARED ON 01-14-67

17.26.12 HOURS



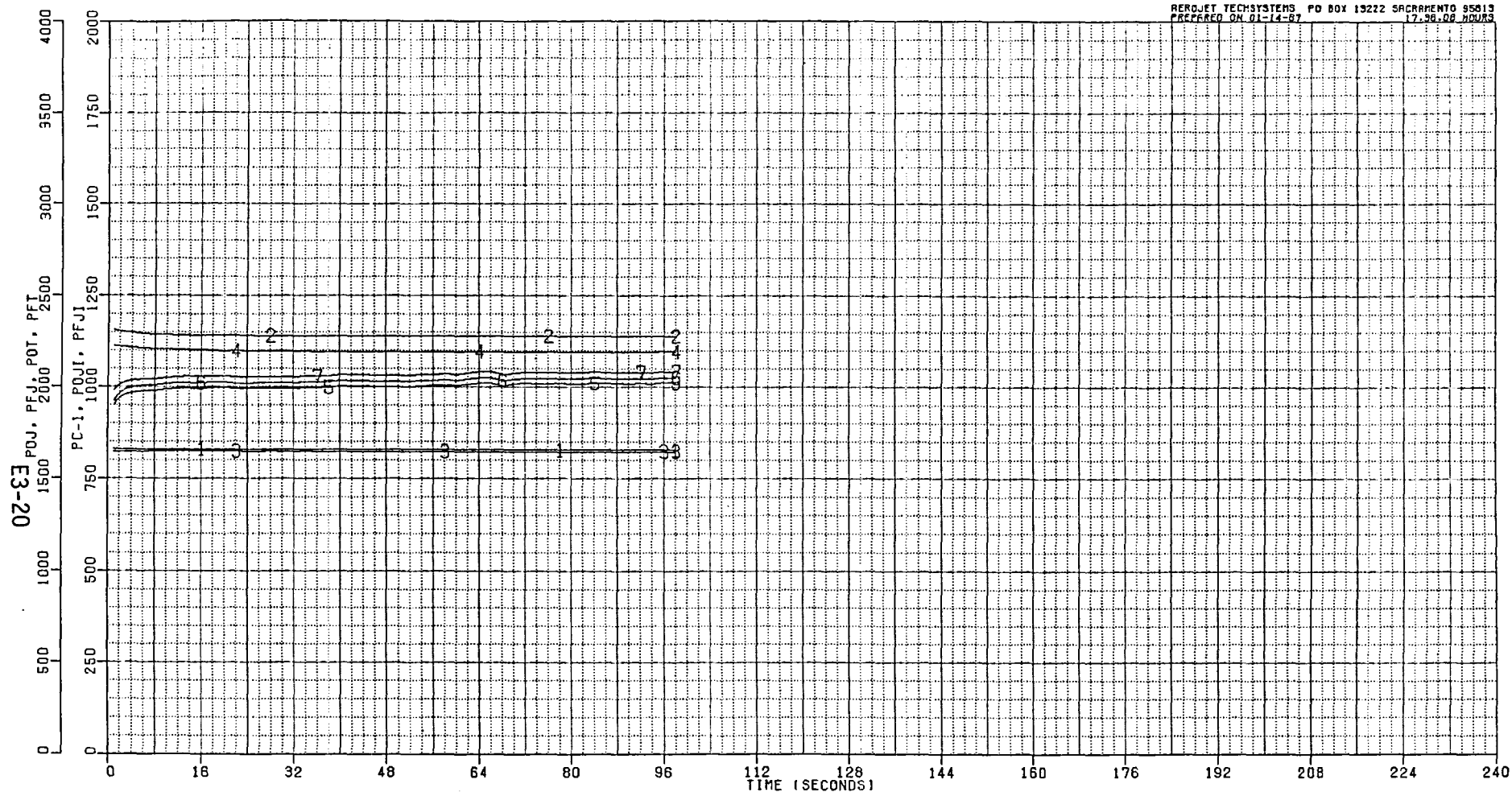
- ```

1 PRTR
2 PRTS
3 PRTS CORR
4 DPTR PSI
5 DPTS-C PSI
6 DPTS PSI

```

**AERDJET**  
**TechSystems**  
**COMPANY**

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-115  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 10-23-85 1418 HOURS AVERAGED DATA



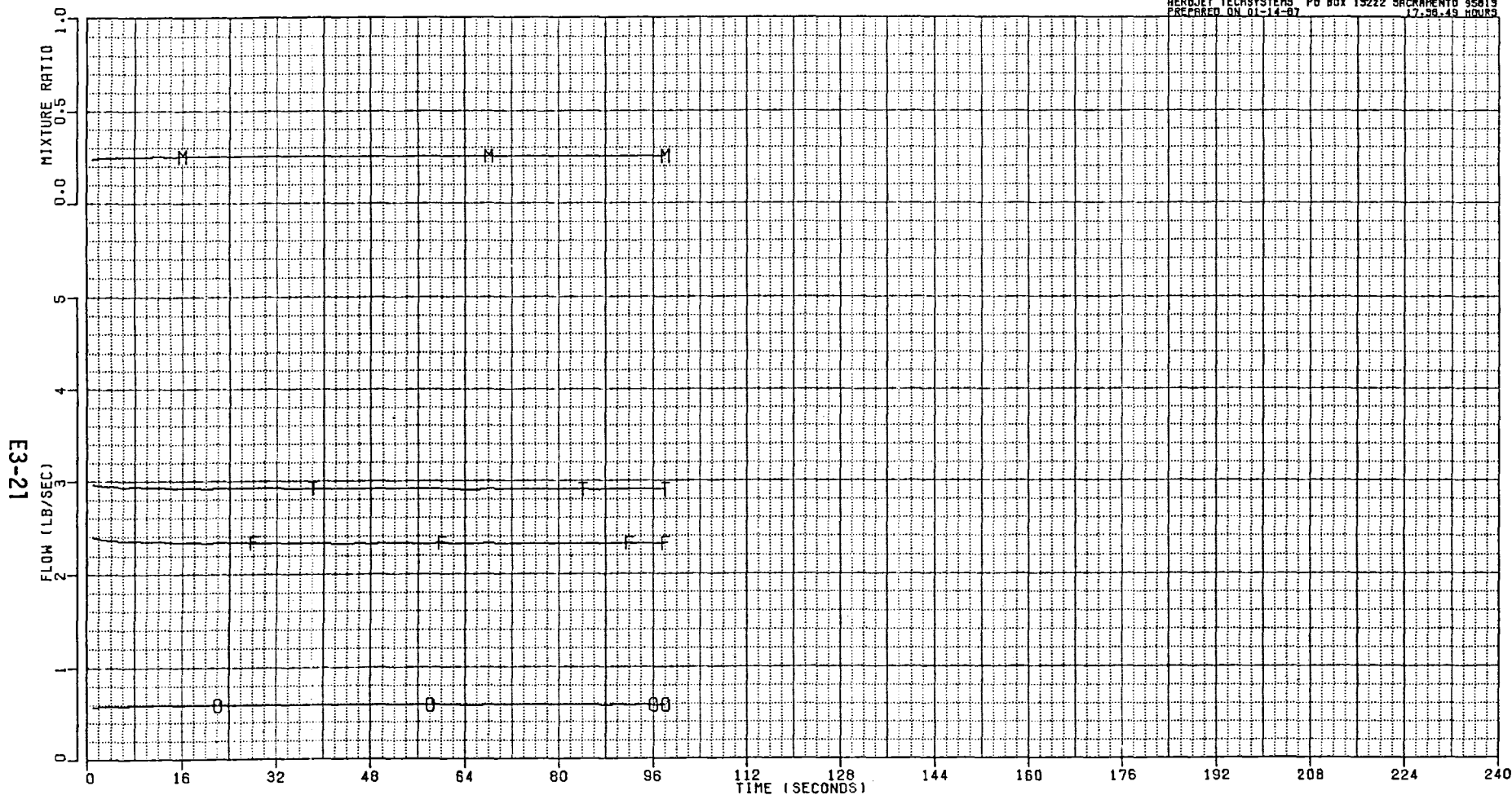
|        |      |
|--------|------|
| 1 POT  | PSIA |
| 2 PFT  | PSIA |
| 3 POJ  | PSIA |
| 4 PFJ  | PSIA |
| 5 PC-1 | PSIA |
| 6 POJI | PSIA |
| 7 PFJI | PSIA |

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**@TechSystems**  
 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-936-A6-116

TEST DATE 10-23-85 1423 HOURS      AVERAGED DATA

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-14-87 17:38.45 HOURS

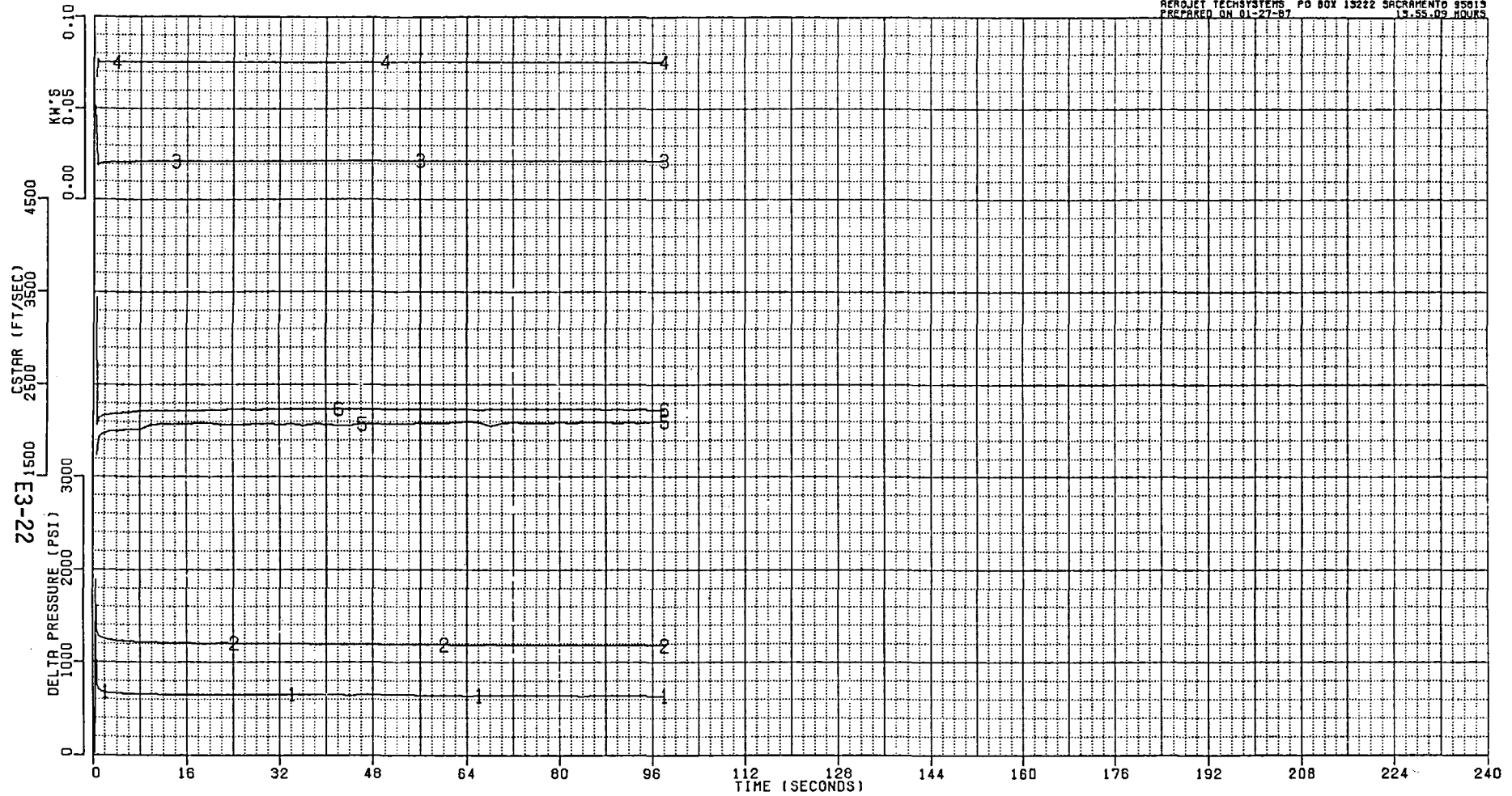


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-116

TEST DATE 10-23-85 1423 HOURS AVERAGED DATA

AEROJET  
**@TechSystems**  
 COMPANY



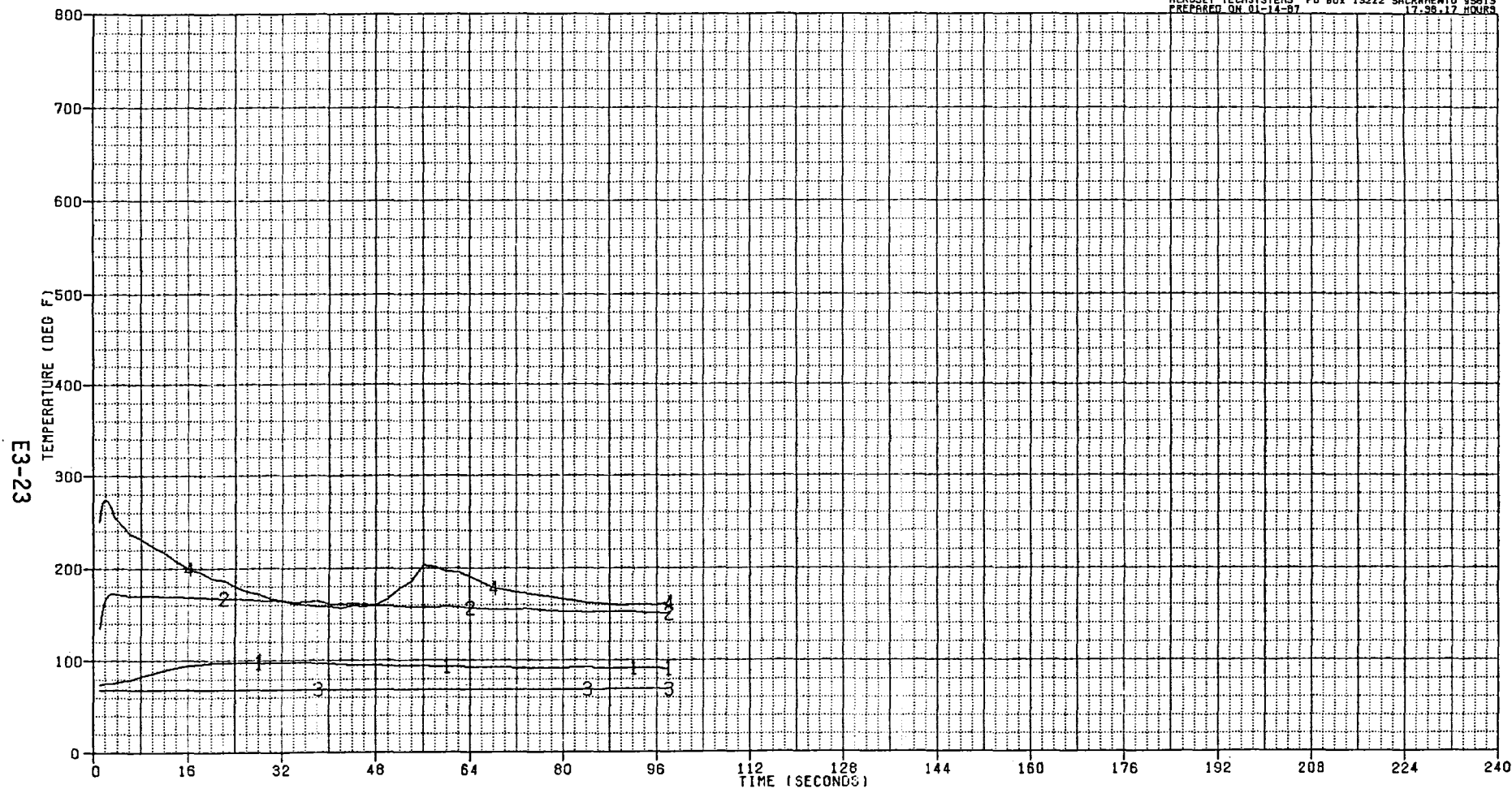
- 1 DPQJ PSI
- 2 DPFJ PSI
- 3 KWQJ
- 4 KWFJ
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

AEROJET  
**@TechSystems**  
 COMPANY

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-116

TEST DATE 10-23-85 1423 HOURS AVERAGED DATA



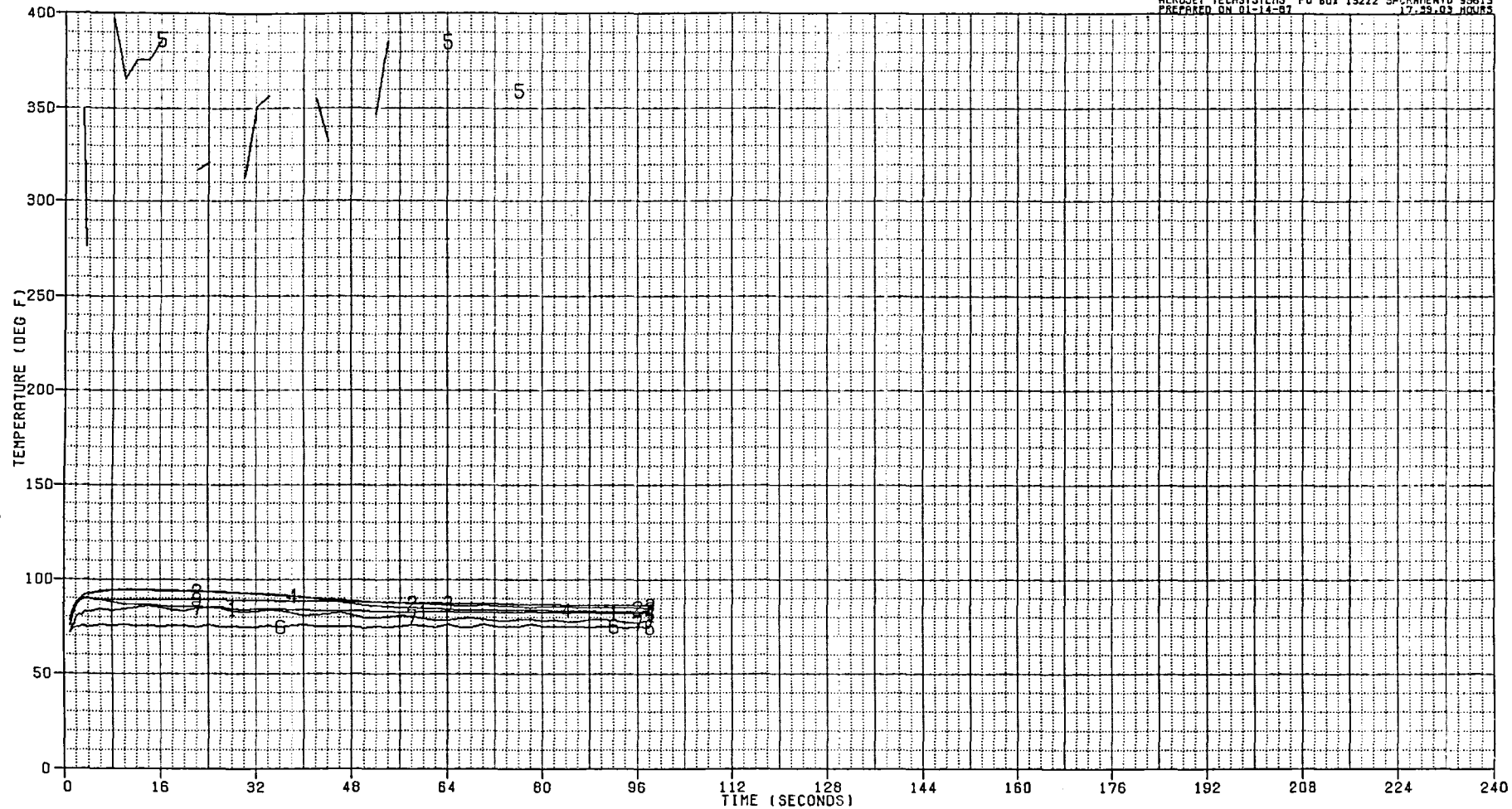


- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-116  
 BARREL DATA  
 TEST DATE 10-23-85 1423 HOURS AVERAGED DATA



E3-24

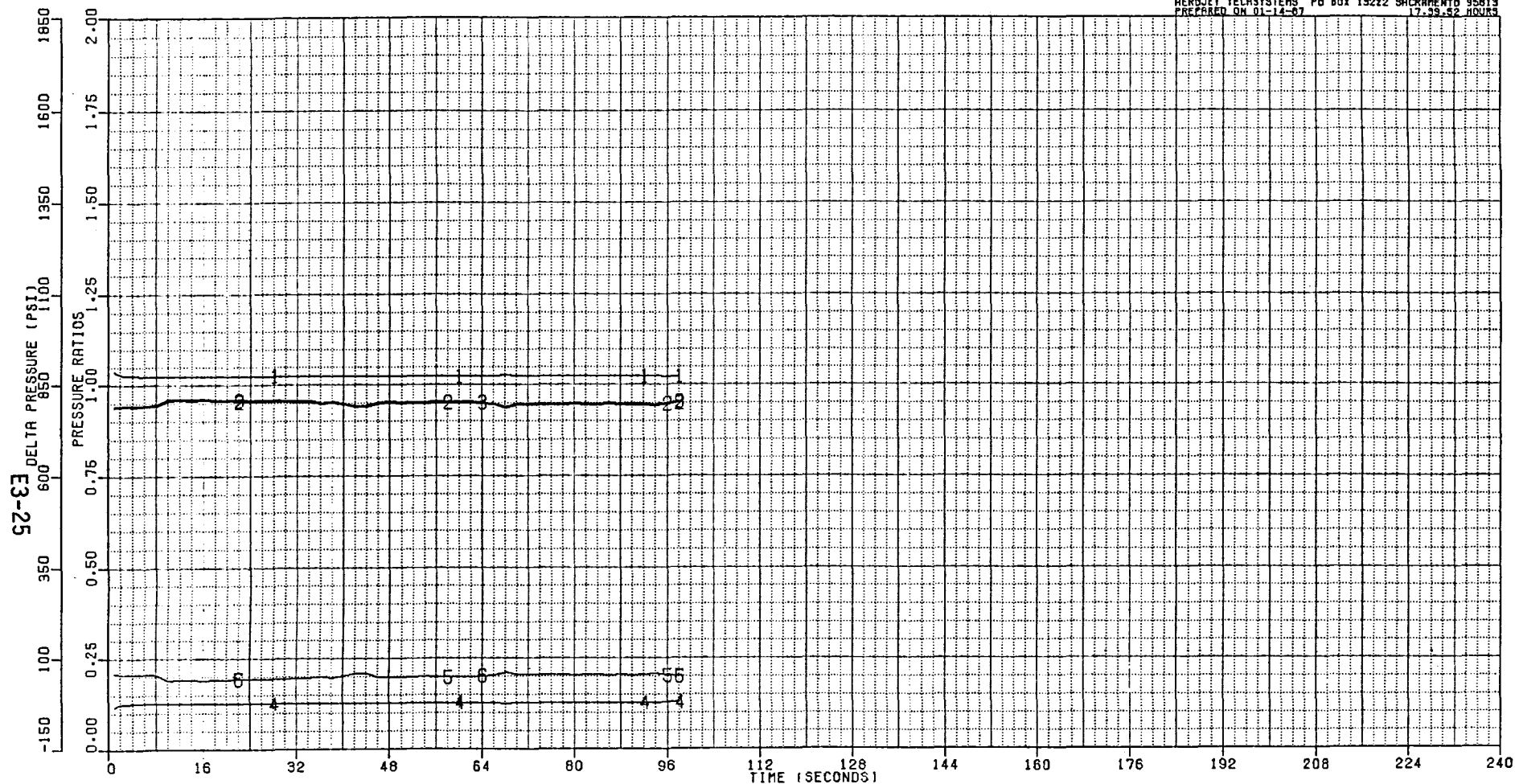


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F



COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-116

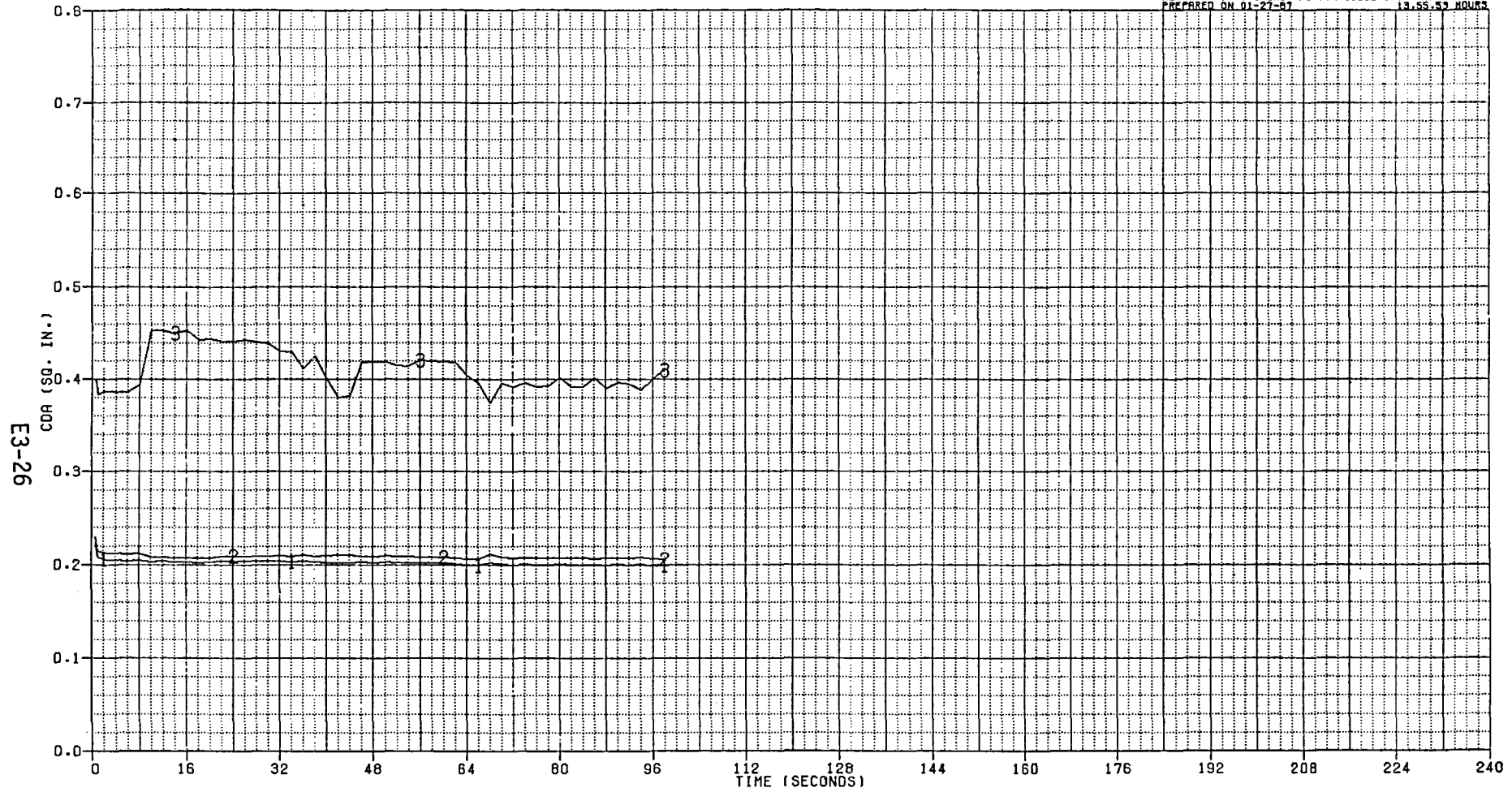
TEST DATE 10-23-85 1423 HOURS AVERAGED DATA



- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 OPTR PSI
- 5 OPTS-C PSI
- 6 OPTS PSI

AEROJET  
  
 COMPANY

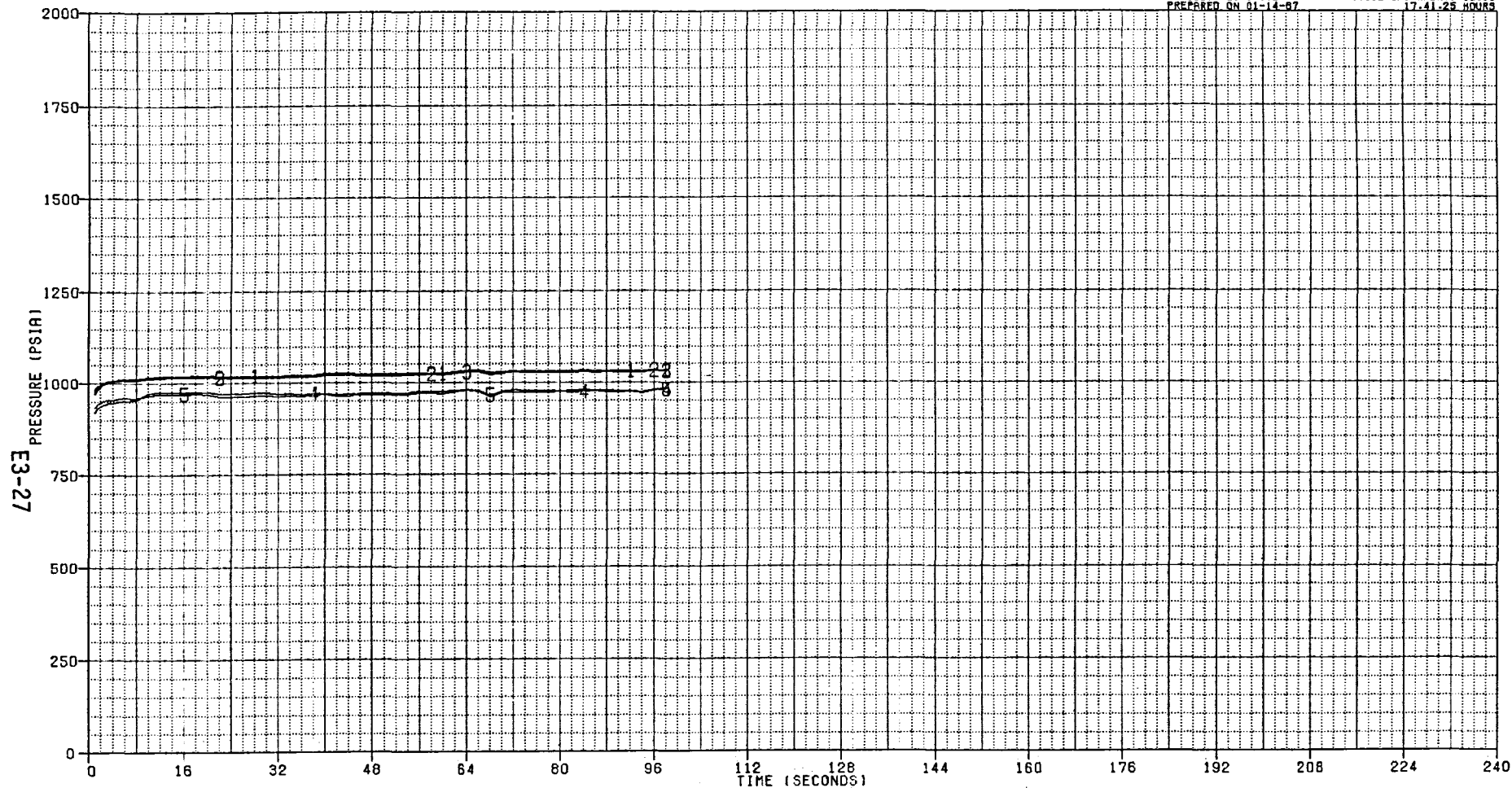
TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-116  
 CHAMBER PRESSURE DROPS AND RATIOS  
 TEST DATE 10-23-85 1423 HOURS AVERAGED DATA



INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-936-A6-116  
NOZZLE AREA CHANGE  
TEST DATE 10-23-85 1423 HOURS AVERAGED DATA



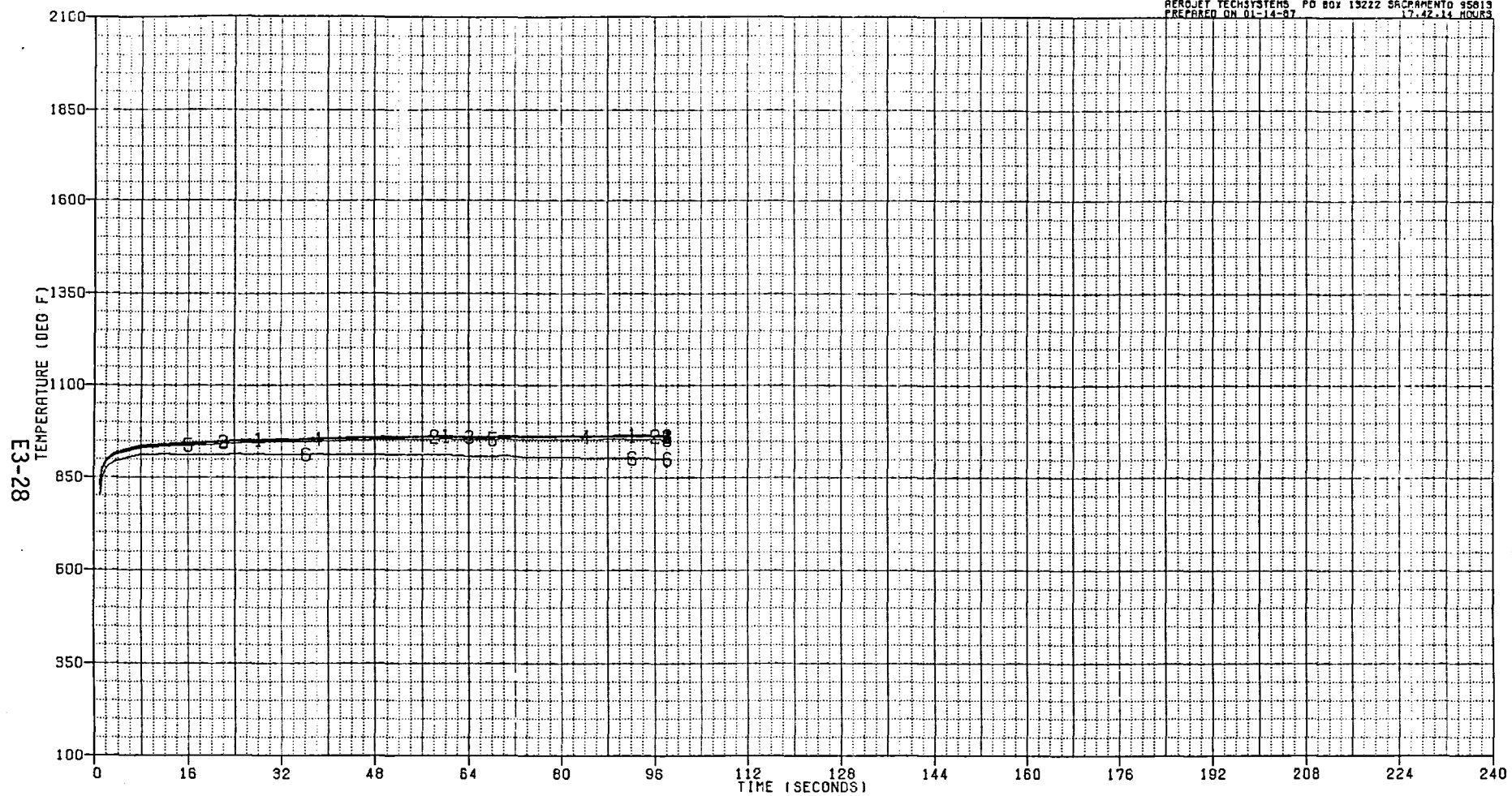
AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-14-87 17:41:25 HOURS



1 PCTSU PSIA  
2 PCTSU-2 PSIA  
3 PCTSU-3 PSIA  
4 PCTSD PSIA  
5 PCTSD-2 PSIA

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TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-116  
PRESSURE MEASUREMENTS  
TEST DATE 10-23-85 1423 HOURS AVERAGED DATA

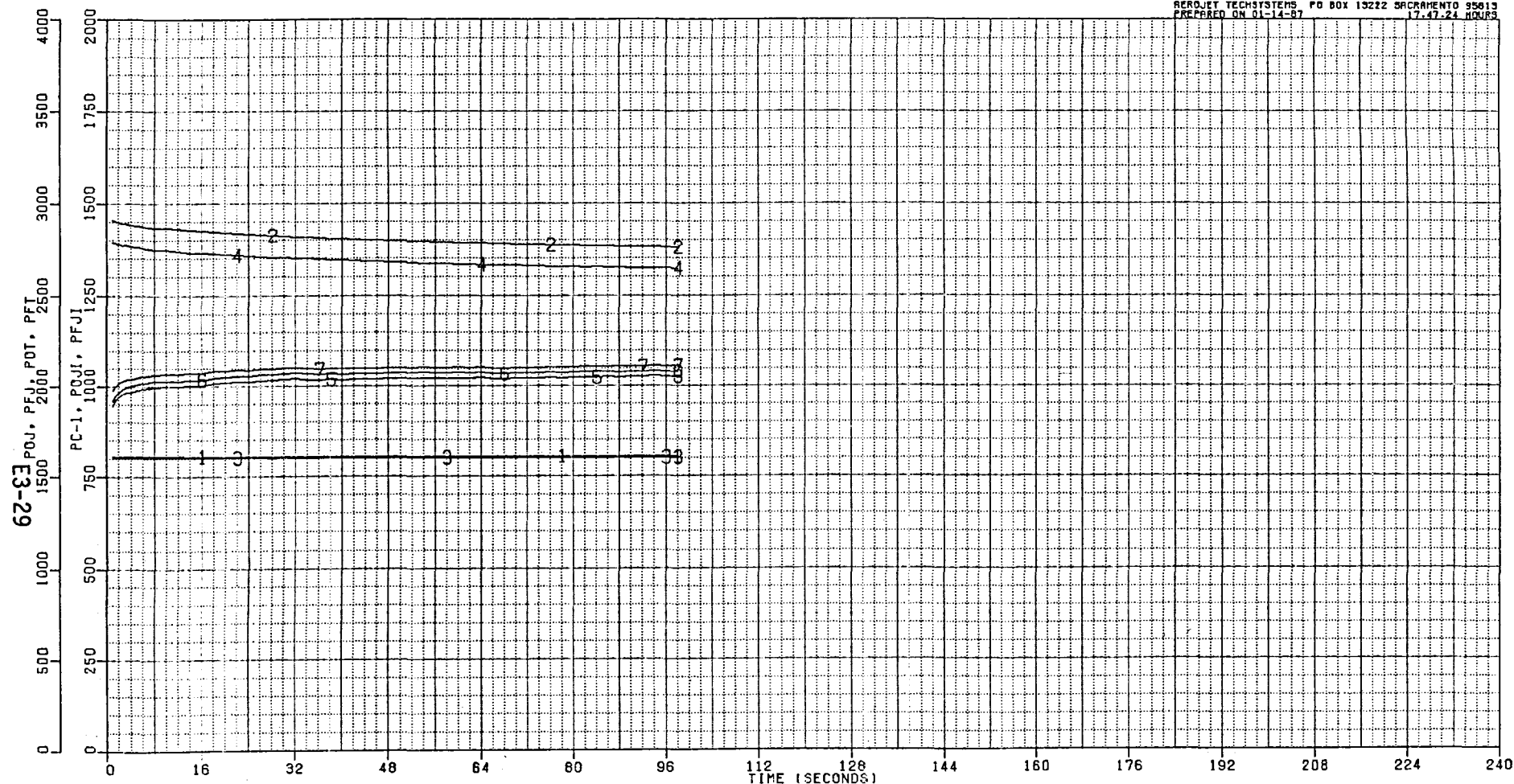


E3-28

- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-116  
PRESSURE MEASUREMENTS  
TEST DATE 10-23-85 1423 HOURS AVERAGED DATA

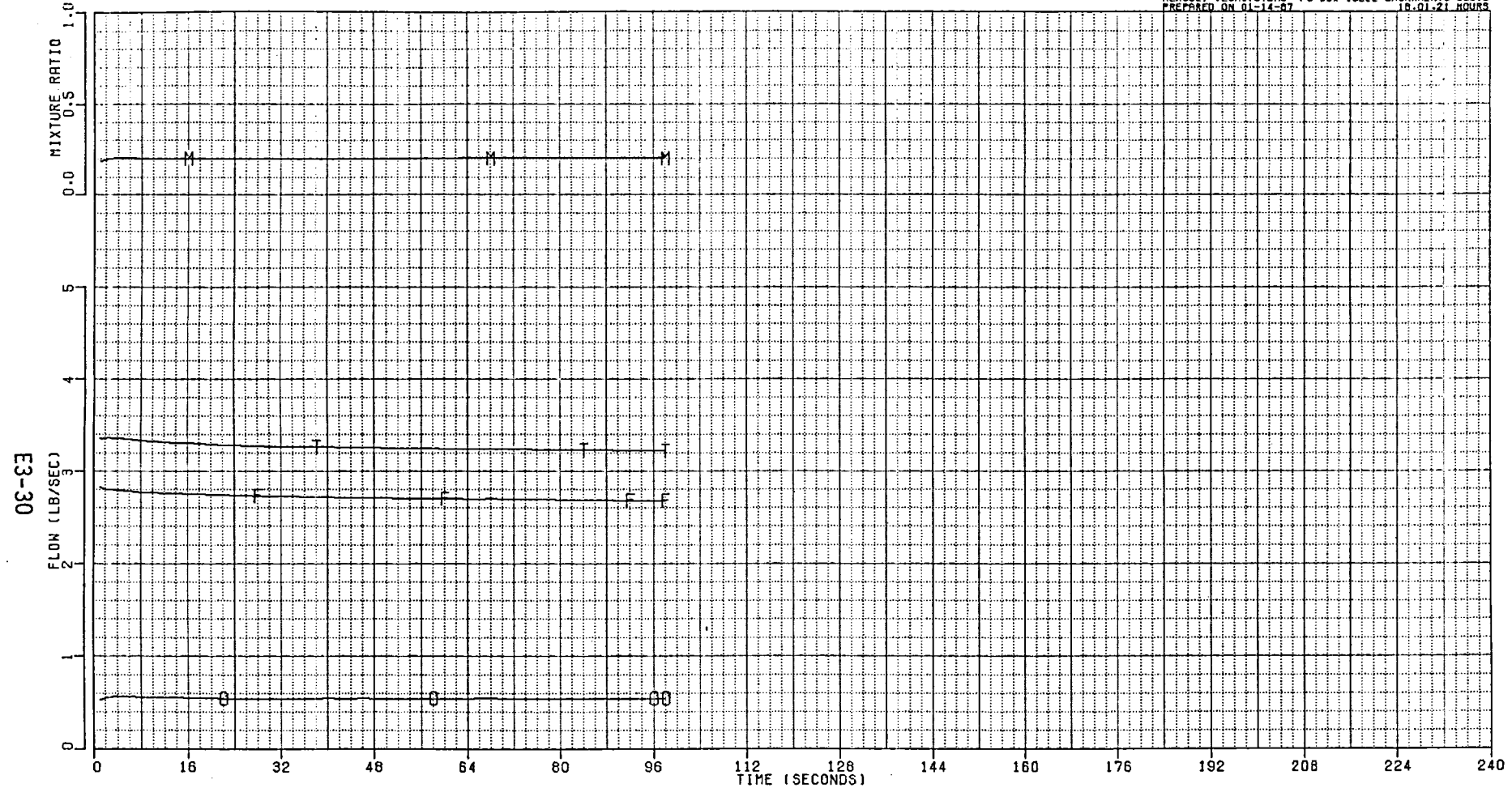


- |        |      |
|--------|------|
| 1 POT  | PSIA |
| 2 PFT  | PSIA |
| 3 POJ  | PSIA |
| 4 PFJ  | PSIA |
| 5 PC-1 | PSIA |
| 6 POJI | PSIA |
| 7 PFJI | PSIA |

AEROJET  
**TechSystems**  
 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-936-A6-118

TEST DATE 10-23-85 1604 HOURS AVERAGED DATA



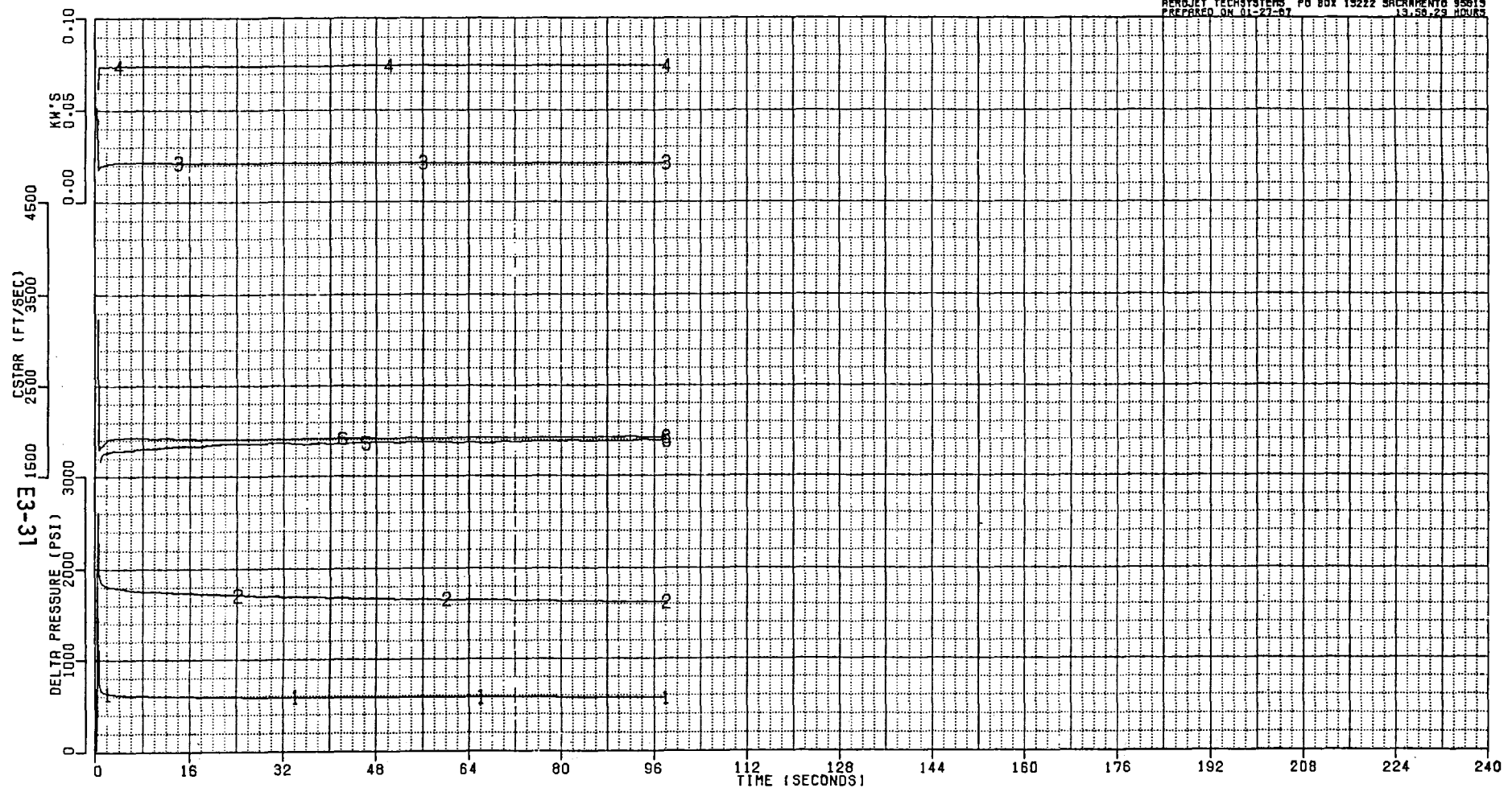
F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-118

TEST DATE 10-23-85 1604 HOURS AVERAGED DATA

AEROJET  
**TechSystems**  
 COMPANY





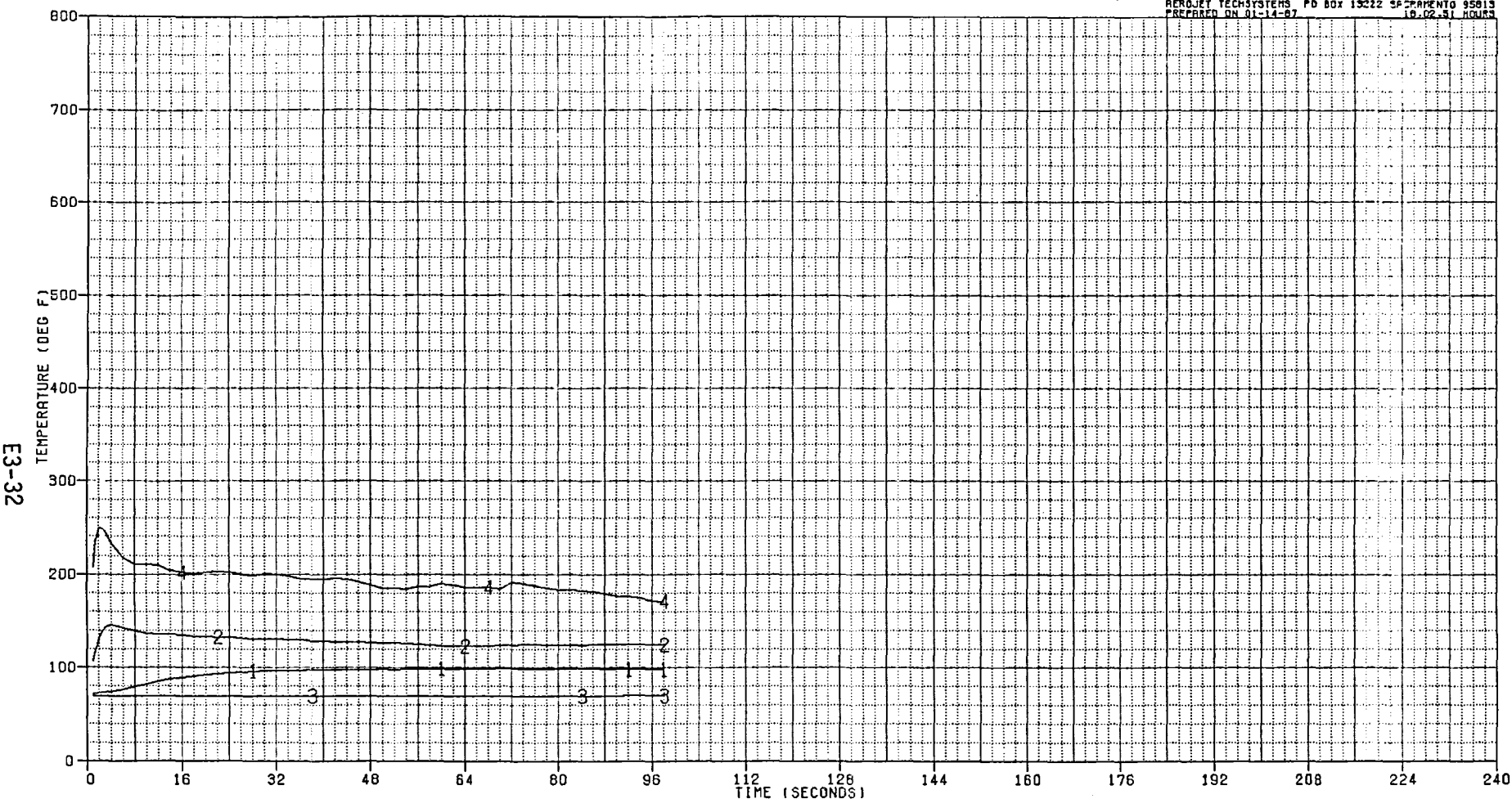
1 DPOJ      PSI  
2 DPFJ      PSI  
3 KWOJ  
4 KWFJ  
5 CSTRPB      FT/SEC  
6 CSTAR      FT/SEC

AEROJET  
**TechSystems**  
COMPANY

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-936-A6-118

TEST DATE 10-23-85 1604 HOURS      AVERAGED DATA

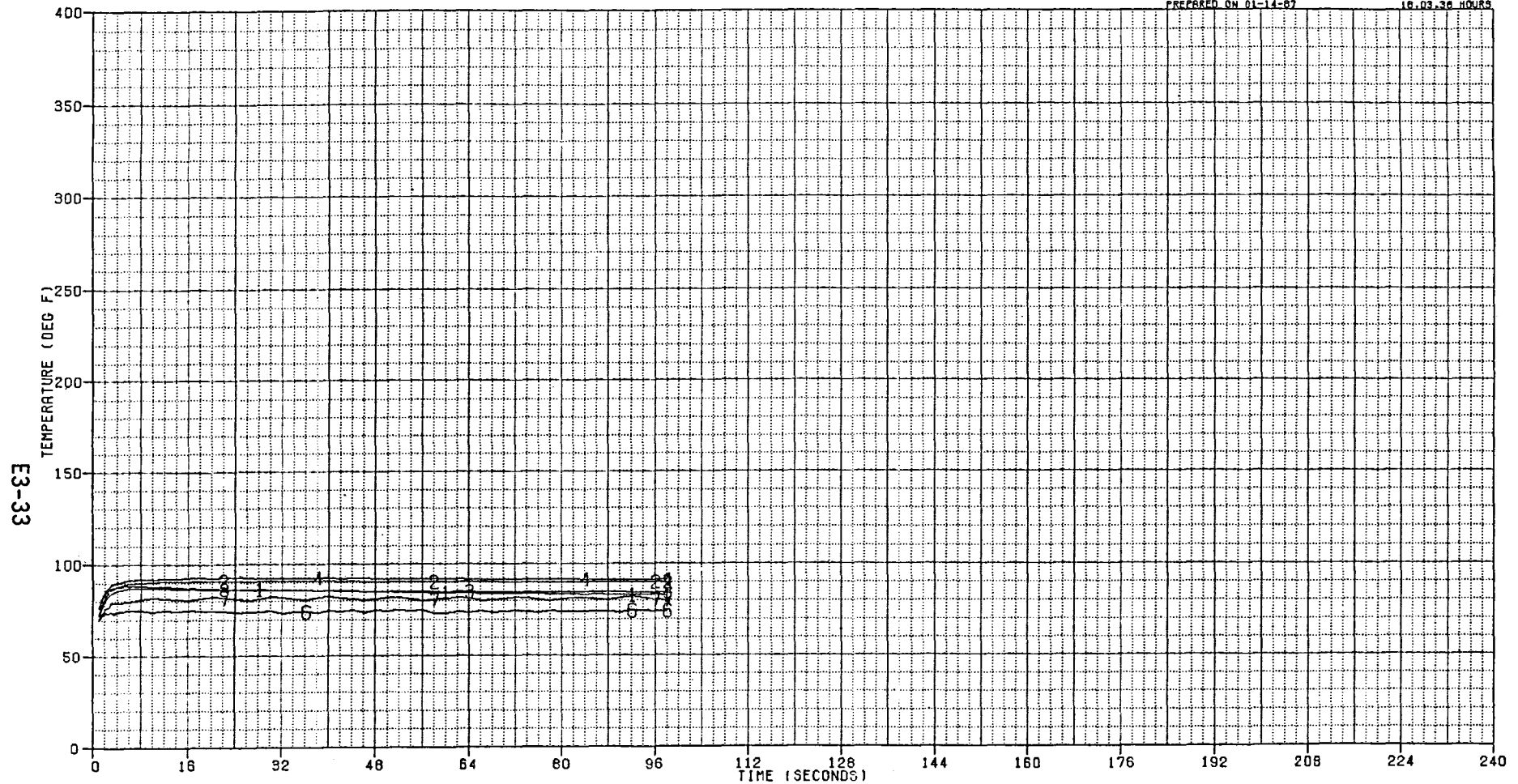




1 TC-7 DEG F  
2 TC-10 DEG F  
3 TC-11 DEG F  
4 TC-12 DEG F

AEROJET  
**TechSystems**  
COMPANY

**GAS SIDE WALL TEMPERATURES VS TIME**  
**TEST NO. 2427-936-A6-118**  
BARREL DATA  
TEST DATE 10-23-85 1604 HOURS AVERAGED DATA

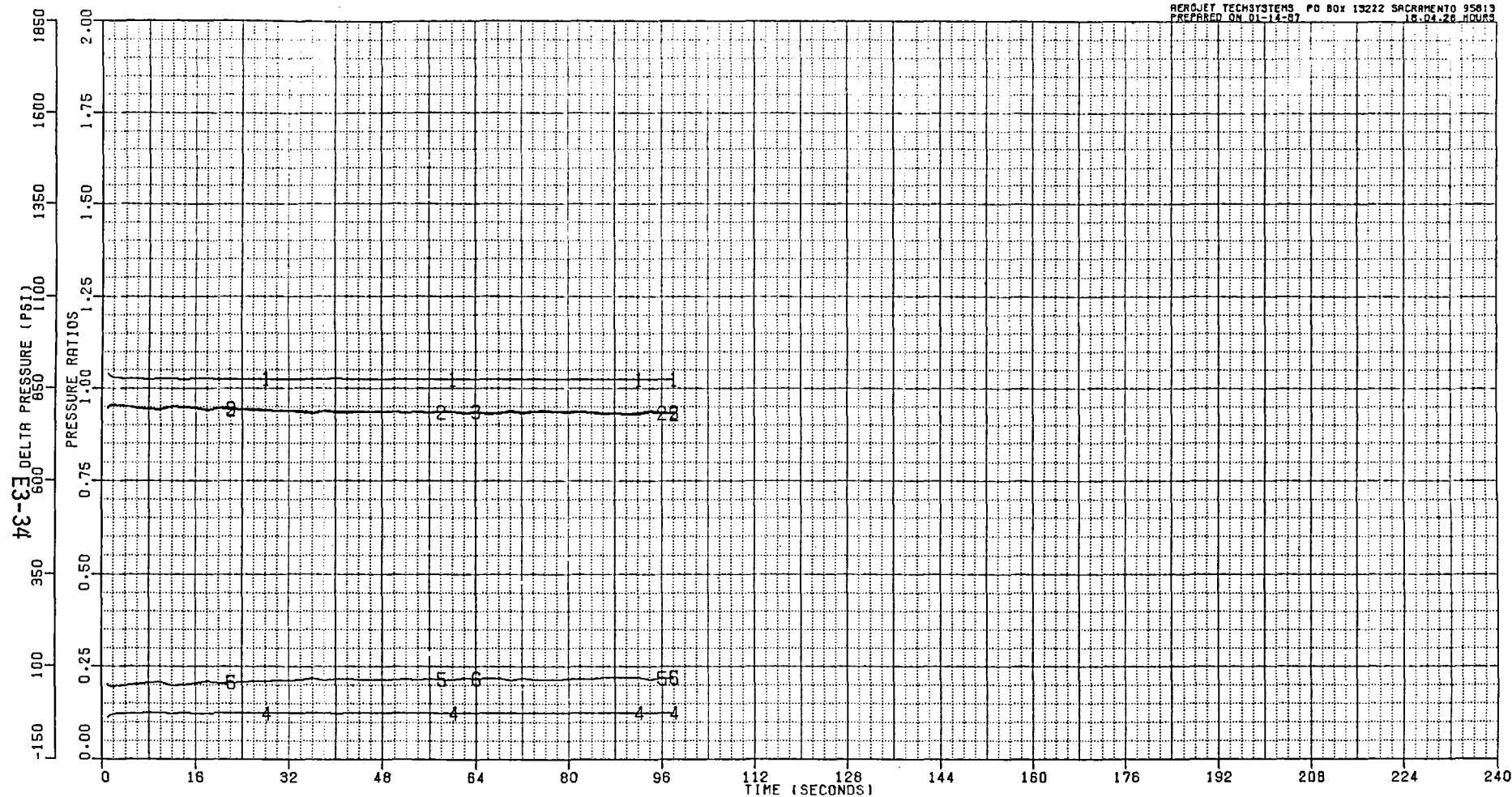


1 TWC-2 DEG F  
 2 TWC-26 DEG F  
 3 TWC-27 DEG F  
 4 TWC-31 DEG F  
 5 TWC-32 DEG F  
 6 TWC-33 DEG F  
 7 TC-7C DEG F

AEROJET  
**TechSystems**  
 COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-118

TEST DATE 10-23-85 1604 HOURS AVERAGED DATA



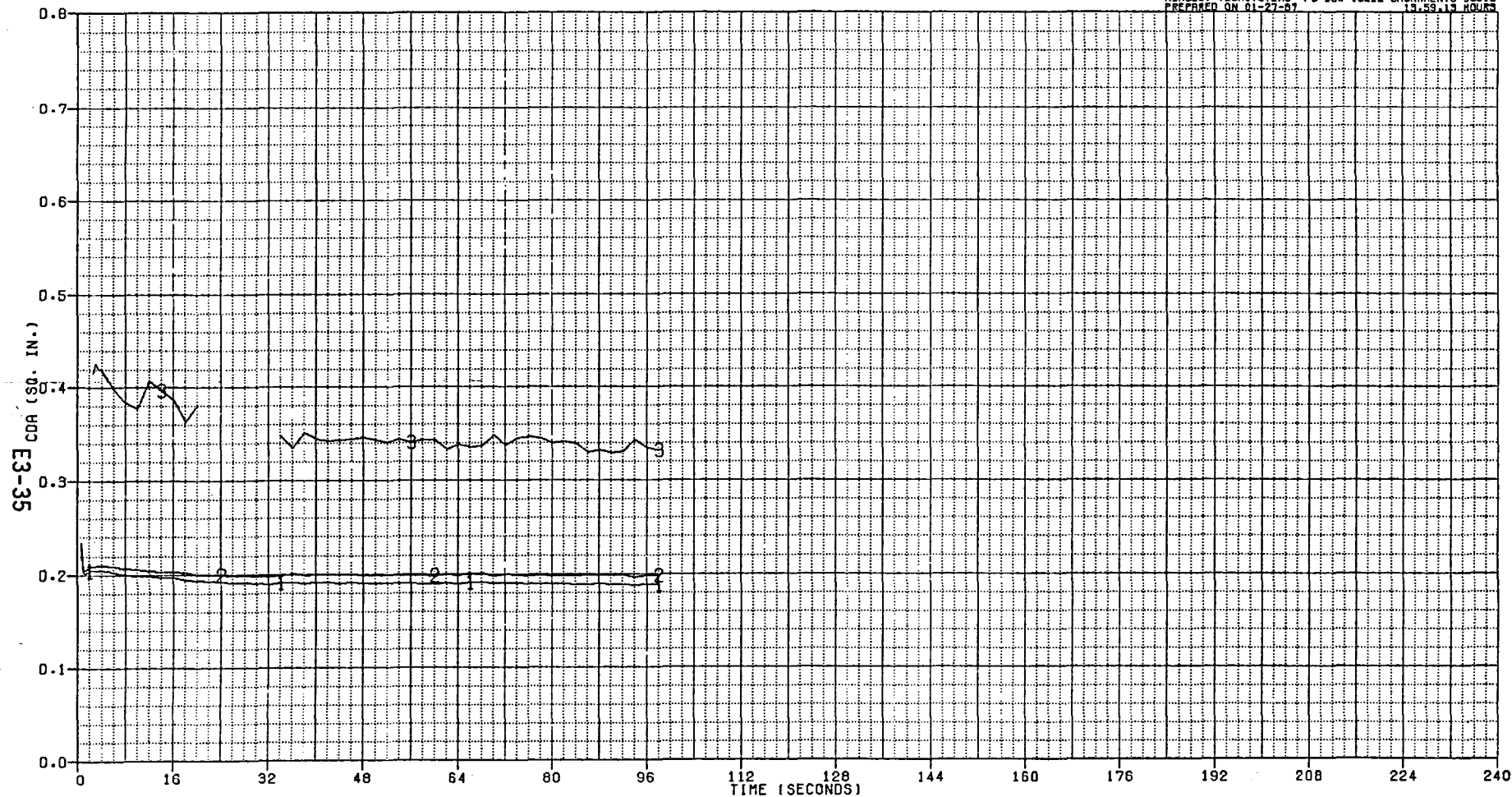
- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
 PSI  
 PSI

AEROJET  
**TechSystems**  
 COMPANY

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-118  
 CHAMBER PRESSURE DROPS AND RATIOS  
 TEST DATE 10-23-85 1604 HOURS AVERAGED DATA

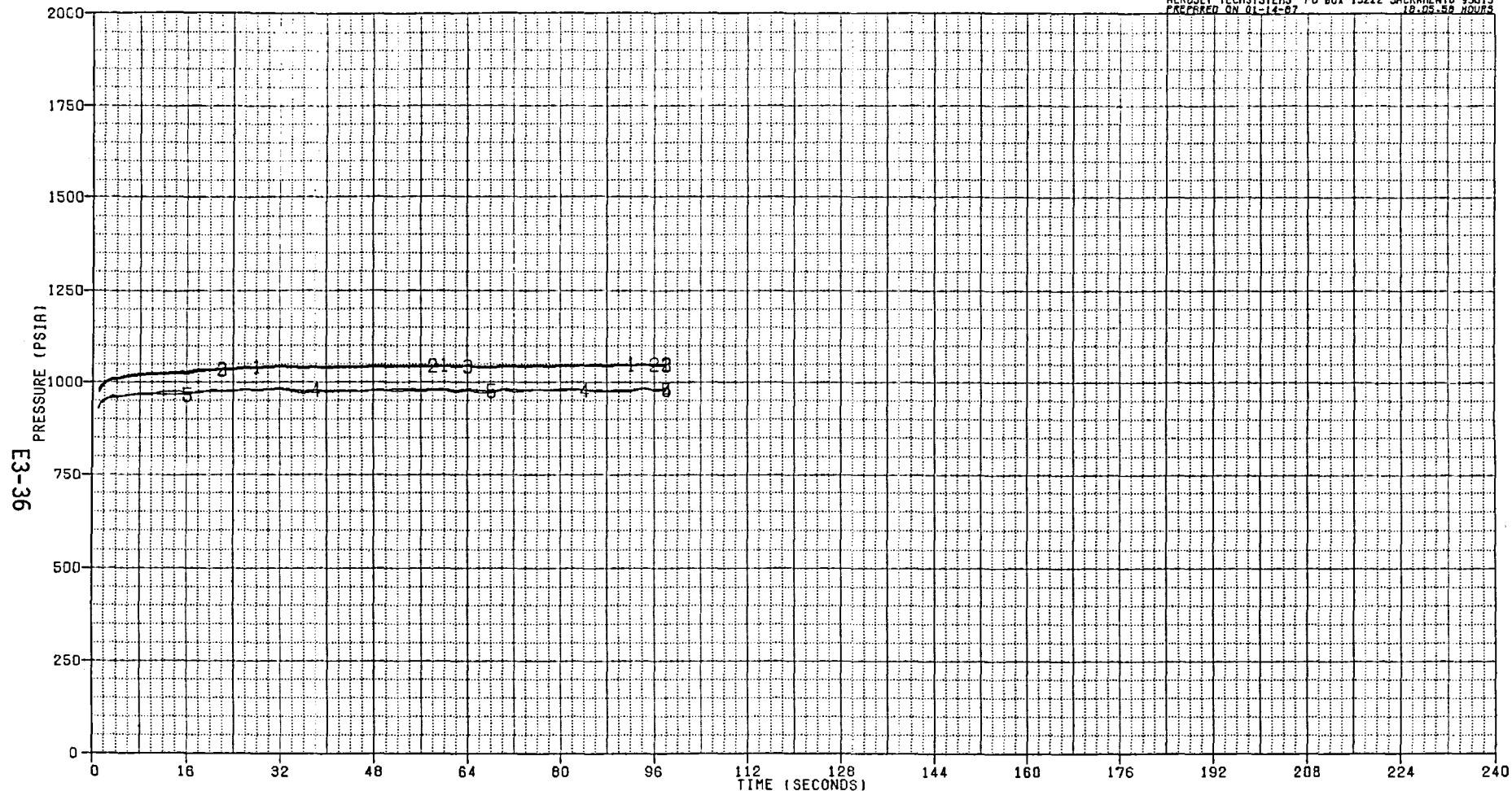
AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-27-87 13:55:13 HOURS



1 NA1 SQ. IN.  
 2 NA2 SQ. IN.  
 3 CDA

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-118  
 NOZZLE AREA CHANGE  
 TEST DATE 10-23-85 1604 HOURS AVERAGED DATA

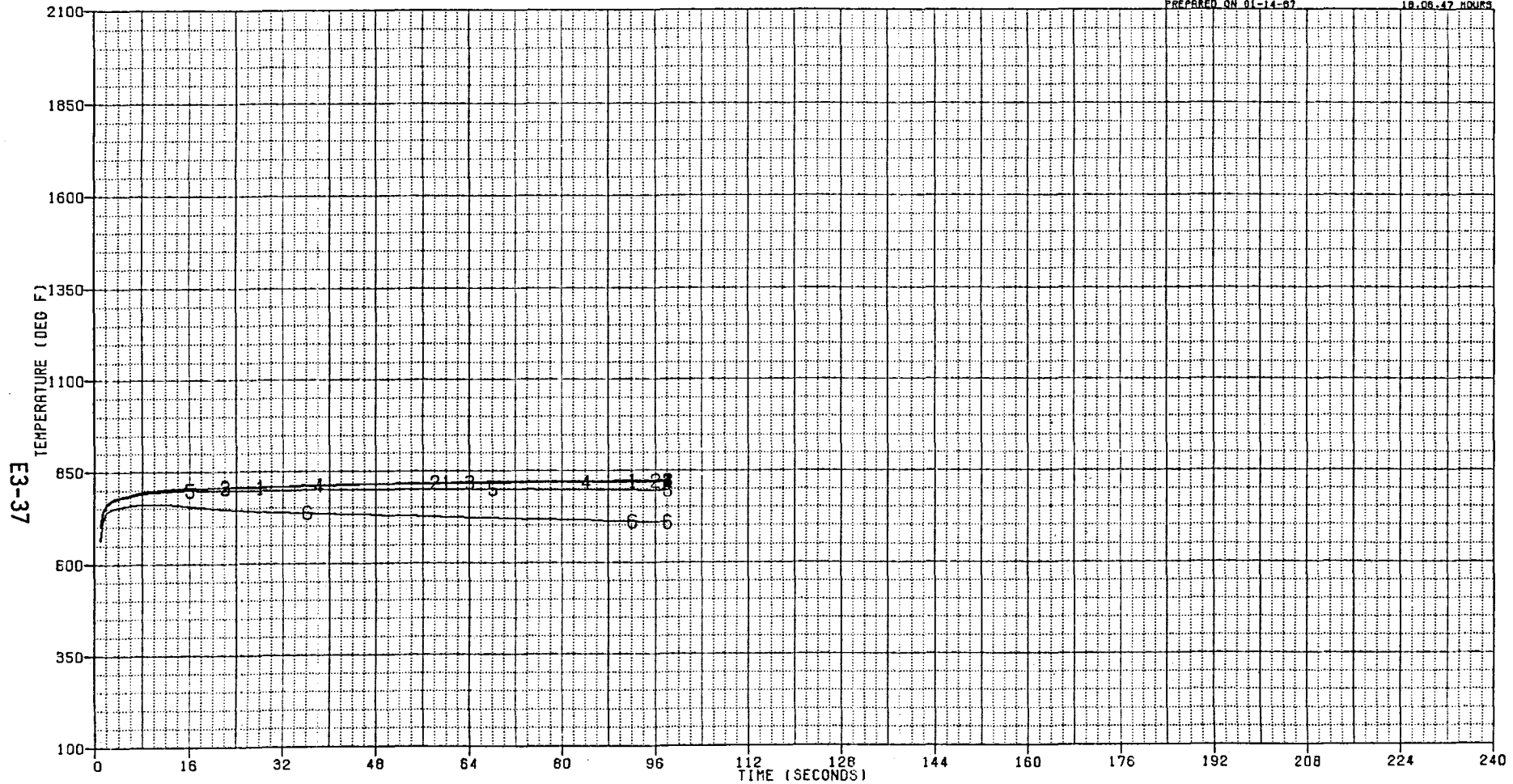
AEROJET  
**@TechSystems**  
 COMPANY



- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



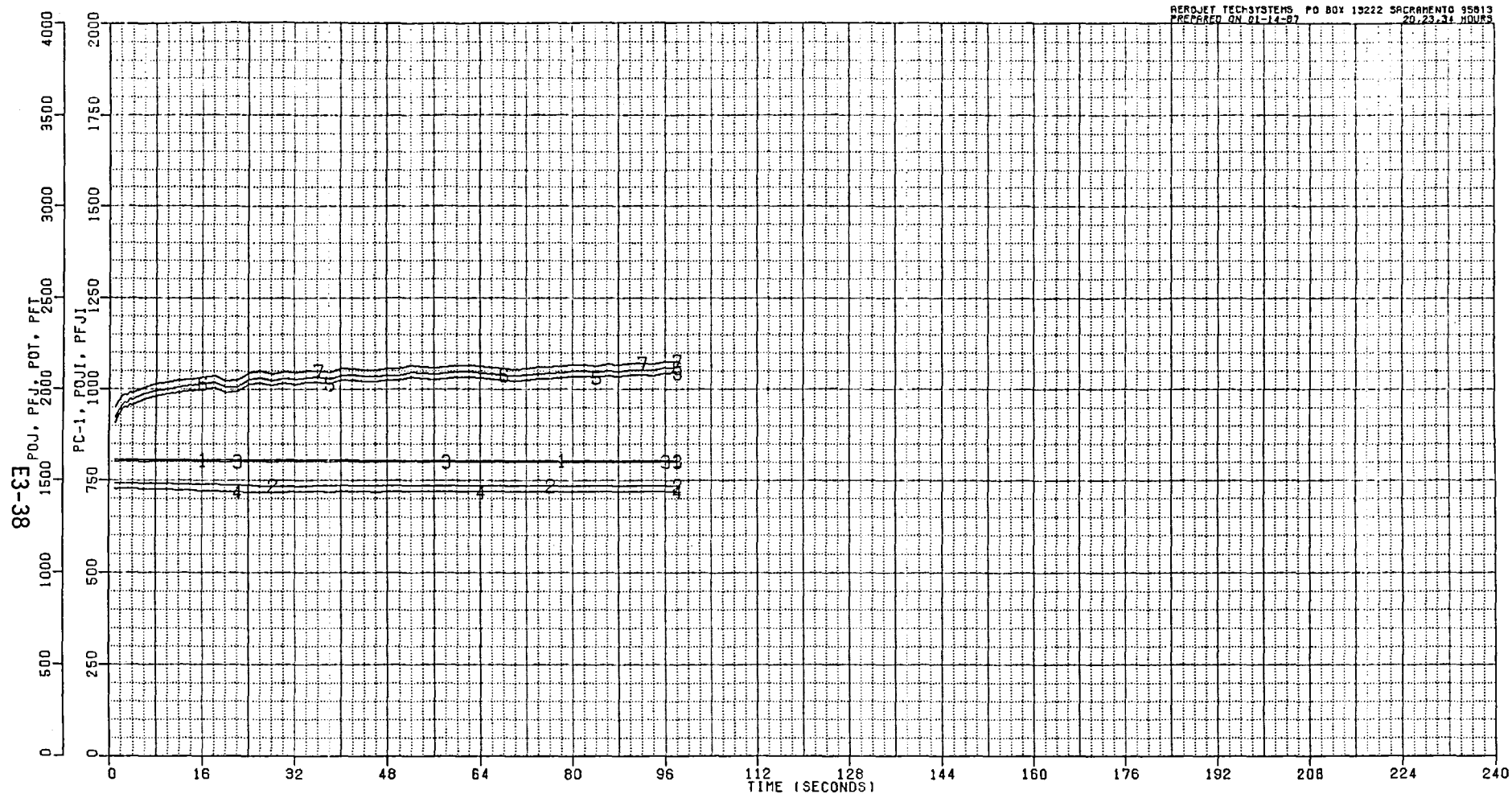
TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-118  
 PRESSURE MEASUREMENTS  
 TEST DATE 10-23-85 1604 HOURS AVERAGED DATA



- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F

AEROJET  
**TechSystems**  
 COMPANY

GAS TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-118  
 PRESSURE MEASUREMENTS  
 TEST DATE 10-23-85 1604 HOURS AVERAGED DATA



1 POT PSIA  
2 PFT PSIA  
3 POJ PSIA  
4 PFJ PSIA  
5 PC-1 PSIA  
6 POJI PSIA  
7 PFJI PSIA

AEROJET  
TechSystems  
COMPANY

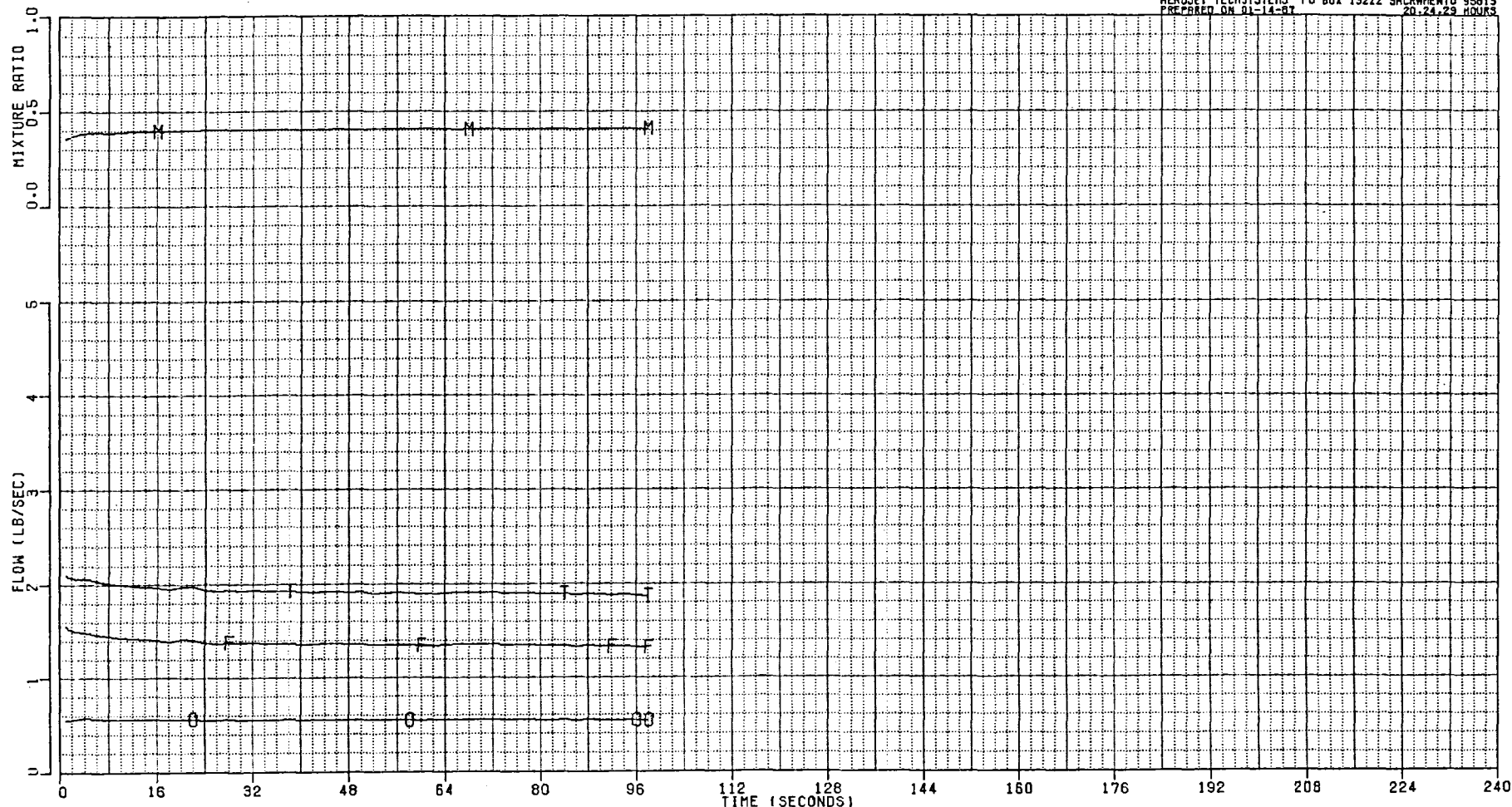
MEASURED PRESSURES VS TIME  
TEST NO. 2427-936-A6-119

TEST DATE 10-23-85 1614 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-14-87 20,23,34 HOURS



E3-39



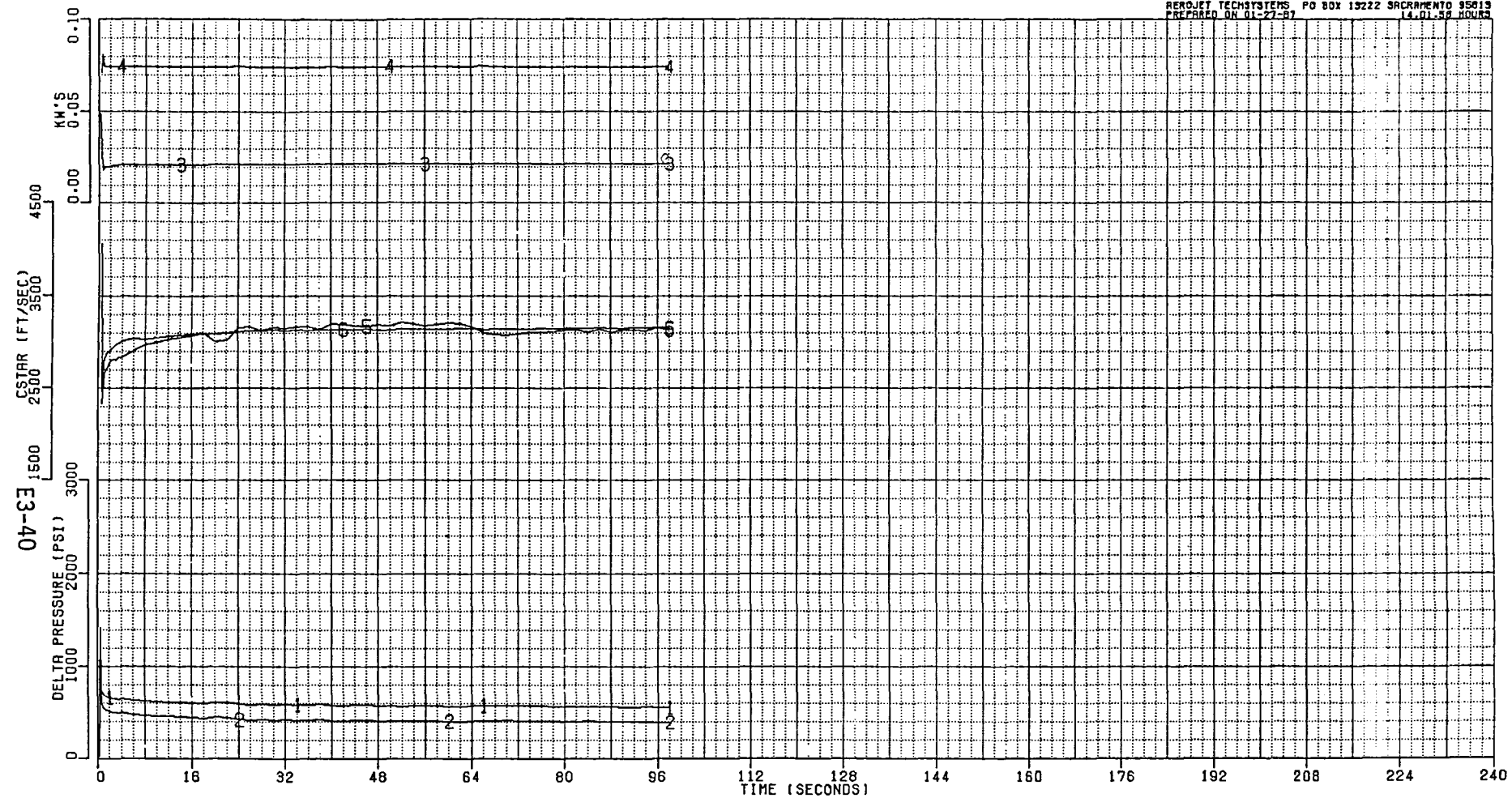
WF LBS/SEC  
 WOX LBS/SEC  
 WTQT LBS/SEC  
 MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-119

TEST DATE 10-23-85 1614 HOURS AVERAGED DATA

AEROJET  
**TechSystems**  
 COMPANY





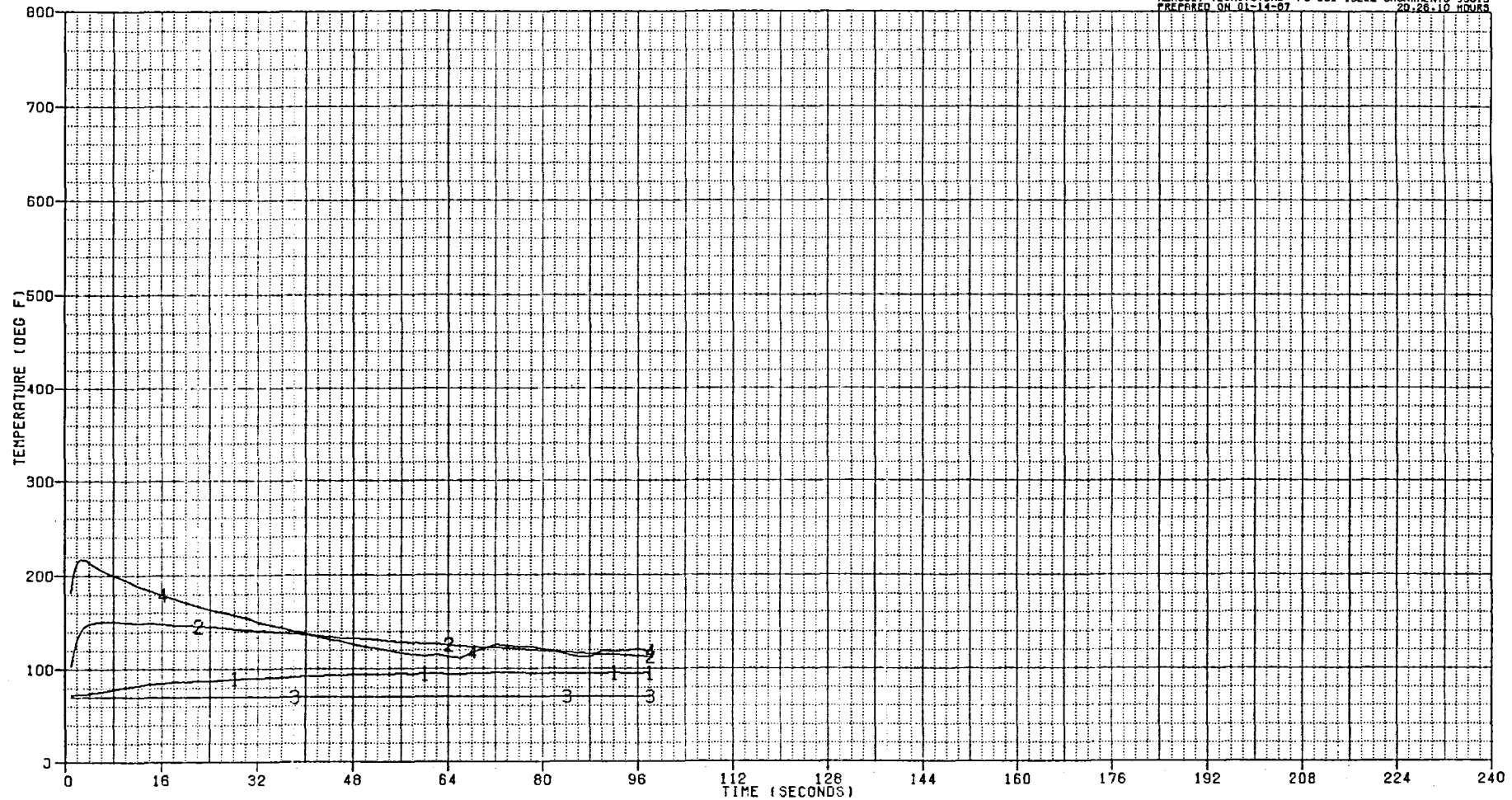
- 1 DP0J PSI
- 2 DPFJ PSI
- 3 KW0J
- 4 KW0J
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC



# INJECTOR CALCULATIONS VS TIME TEST NO. 2427-936-A6-119

TEST DATE 10-23-85 1614 HOURS AVERAGED DATA

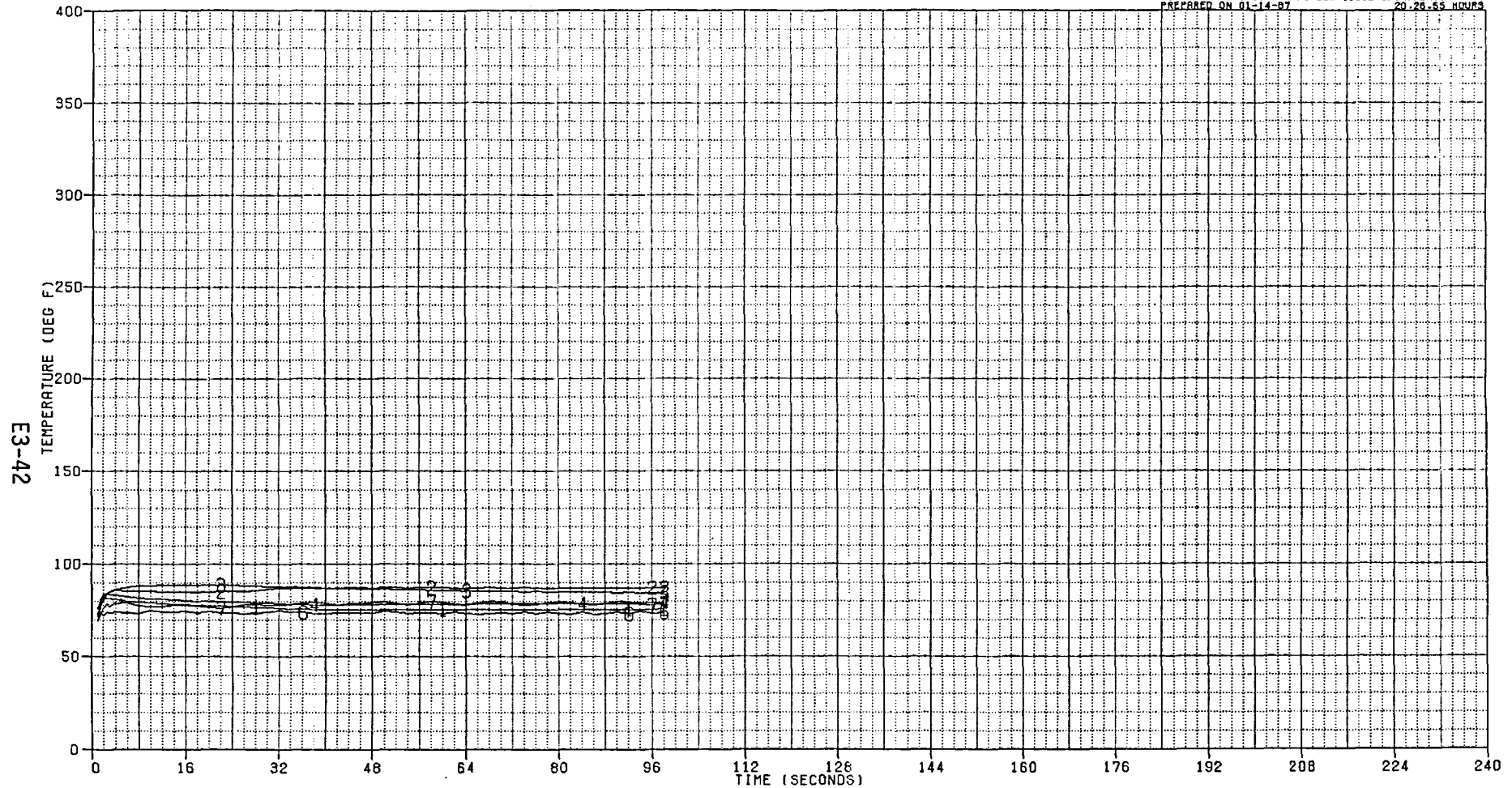
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-14-87 20:26 10 HOURS



1 TC-7 DEG F  
2 TC-10 DEG F  
3 TC-11 DEG F  
4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-119  
BARREL DATA  
TEST DATE 10-23-85 1614 HOURS AVERAGED DATA

AEROJET  
**@TechSystems**  
COMPANY

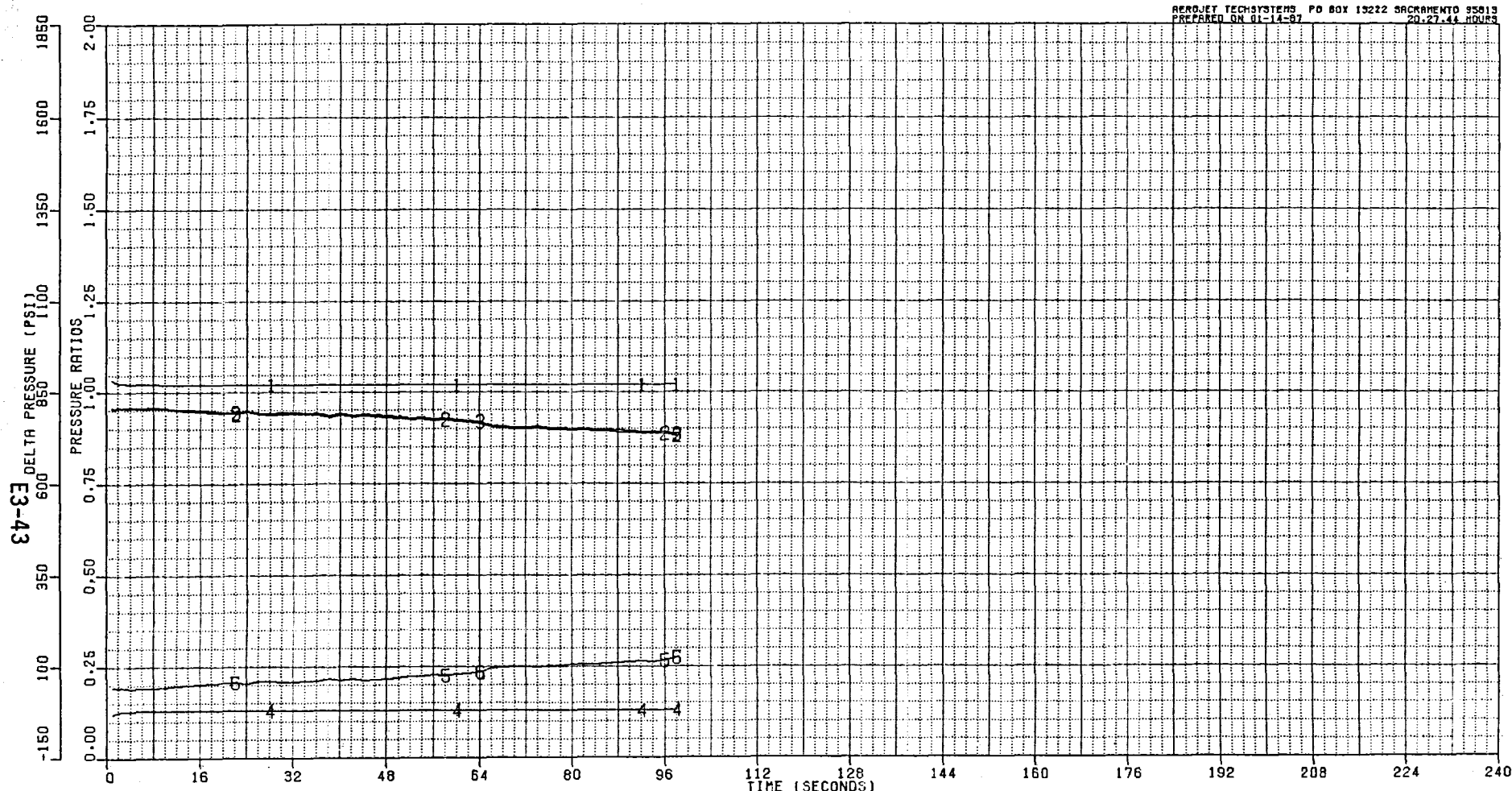


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

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**TechSystems**  
COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-119

TEST DATE 10-23-85 1614 HOURS AVERAGED DATA

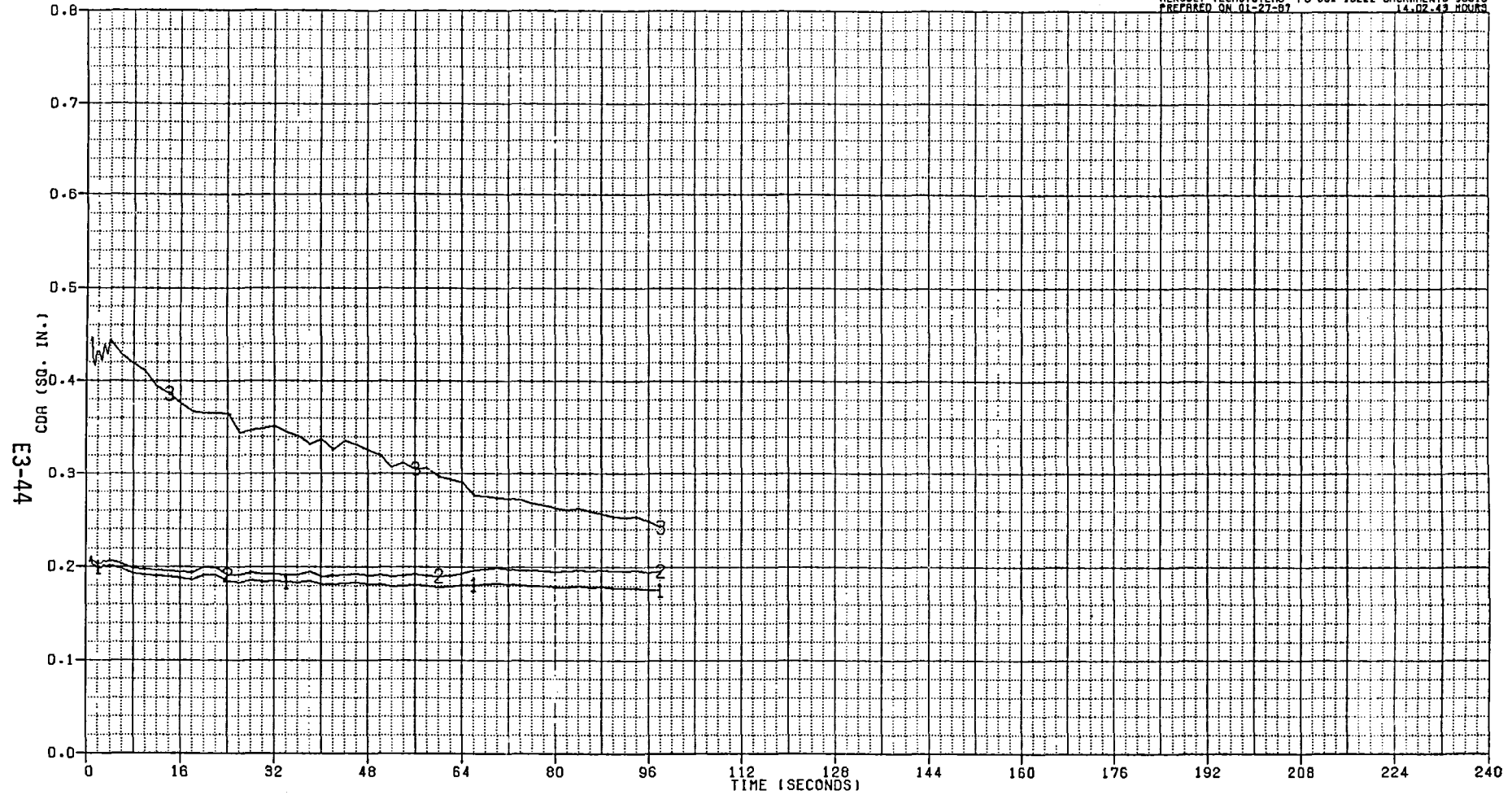


AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-14-87 20:27:44 HOURS

- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR      PSI
- 5 DPTS-C    PSI
- 6 DPTS      PSI



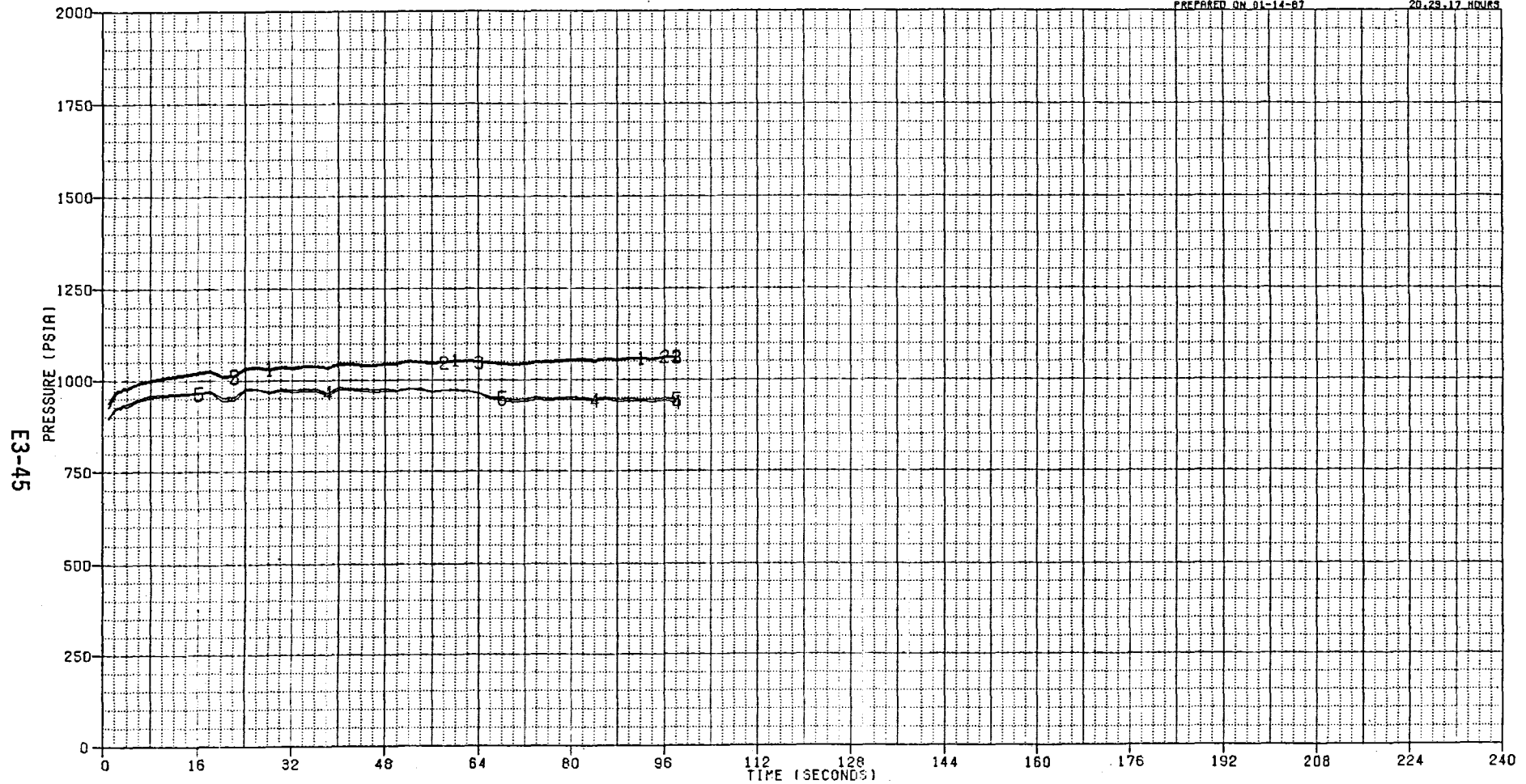
TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-119  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 10-23-85 1614 HOURS      AVERAGED DATA



1 NR1 SQ.IN.  
 2 NR2 SQ.IN.  
 3 CDR

AEROJET  
**TechSystems**  
 COMPANY

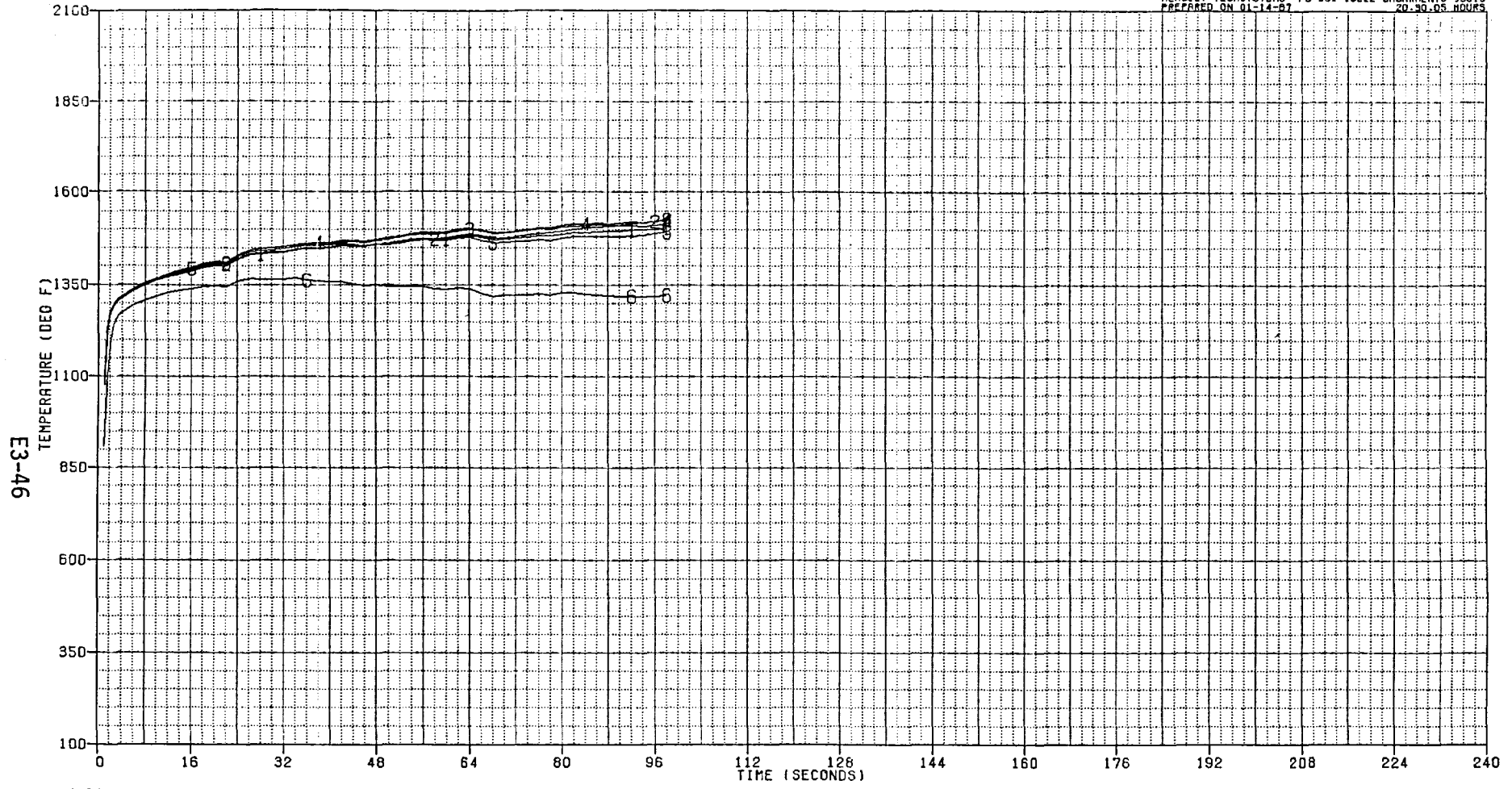
INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-119  
 NOZZLE AREA CHANGE  
 TEST DATE 10-23-85 1614 HOURS AVERAGED DATA



- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 FCTSD PSIA
- 5 PCTSD-2 PSIA



TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-119  
 PRESSURE MEASUREMENTS  
 TEST DATE 10-23-85 1614 HOURS AVERAGED DATA

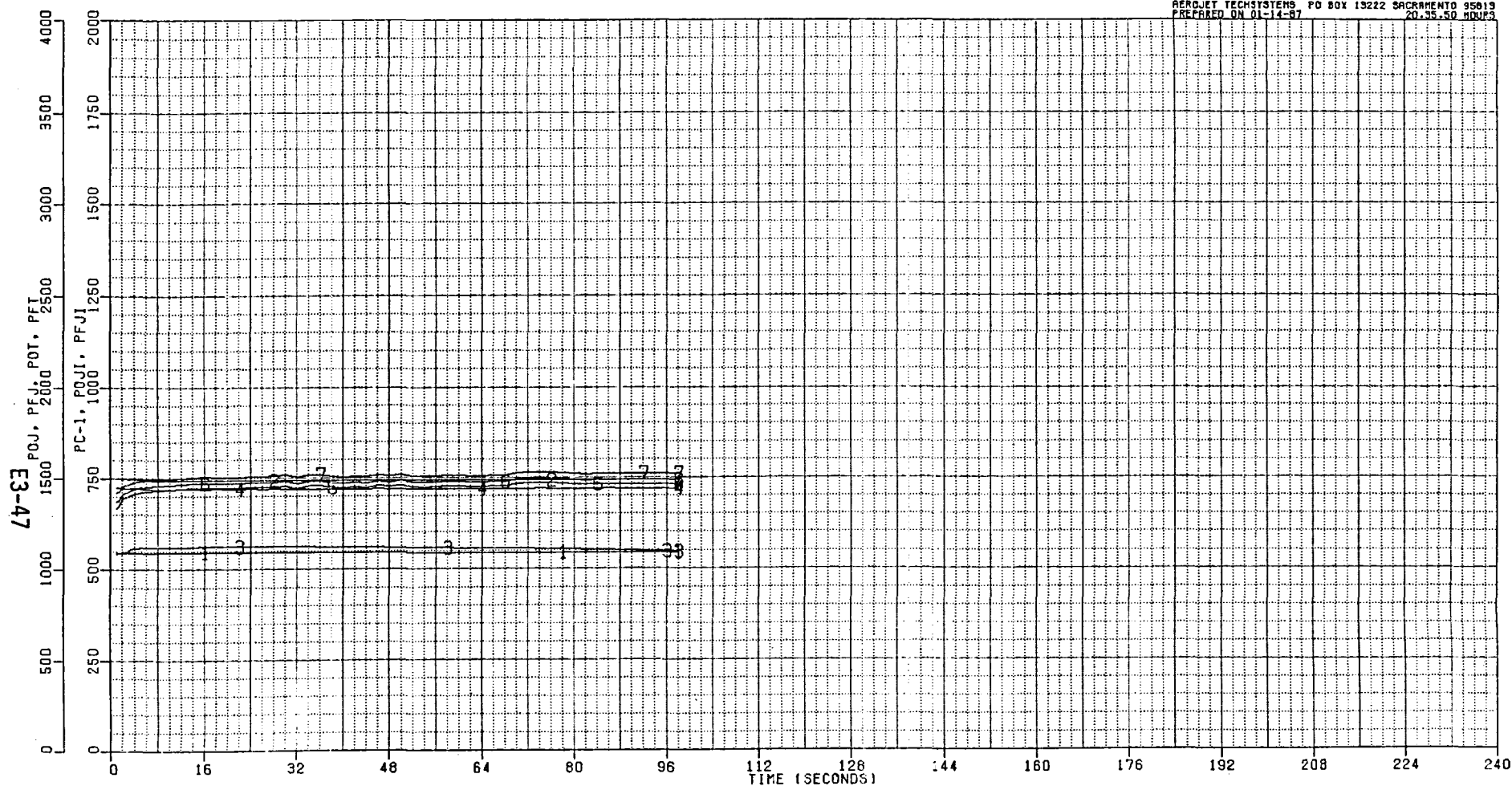


- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-119  
PRESSURE MEASUREMENTS  
TEST DATE 10-23-85 1614 HOURS AVERAGED DATA





|        |      |
|--------|------|
| 1 POT  | PSIA |
| 2 PFT  | PSIA |
| 3 POJ  | PSIA |
| 4 PFJ  | PSIA |
| 5 PC-1 | PSIA |
| 6 POJI | PSIA |
| 7 PFJI | PSIA |

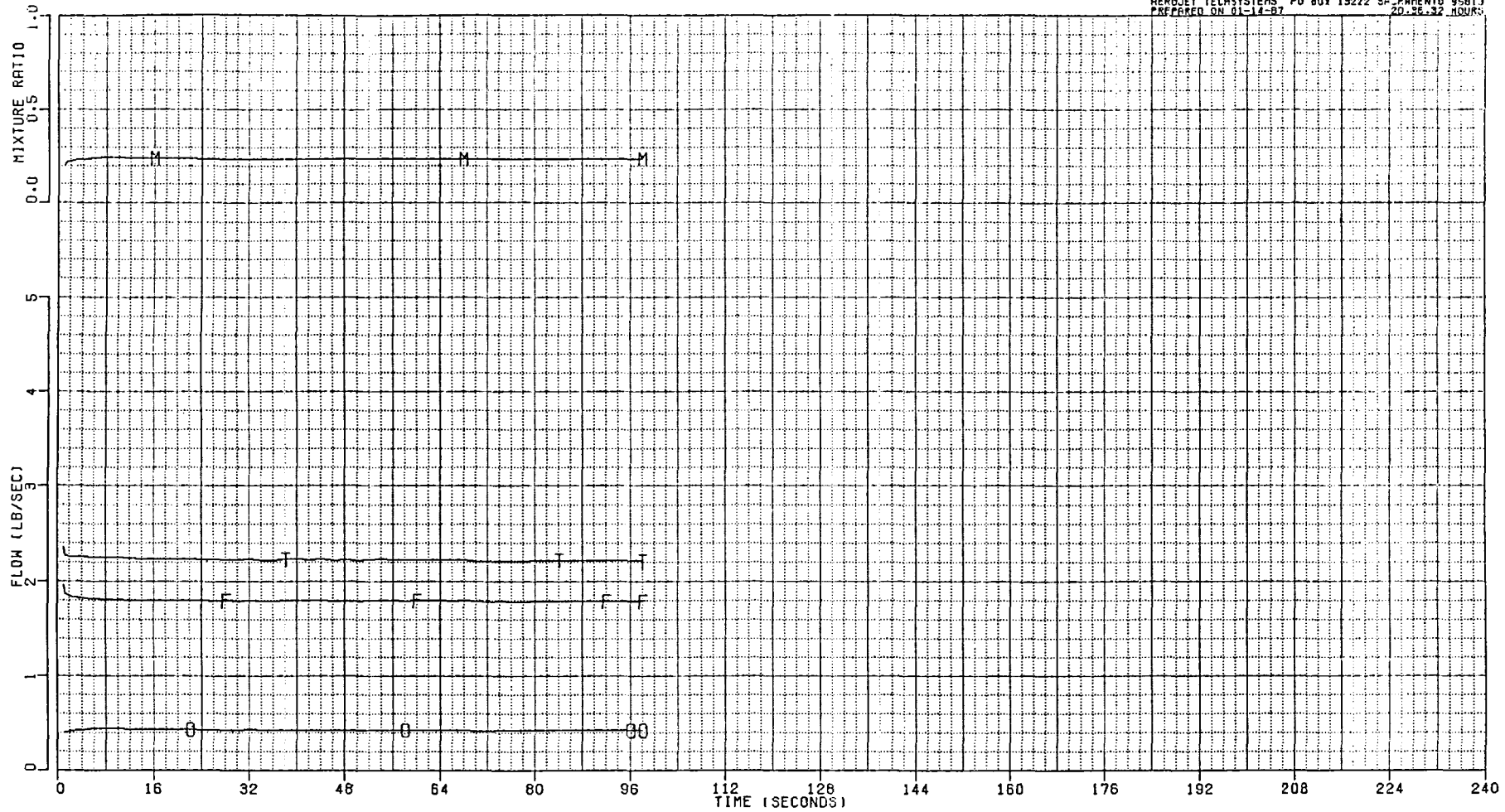
AEROJET  
  
 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-936-A6-120

TEST DATE 10-23-85 2005 HOURS      AVERAGED DATA



E3-48

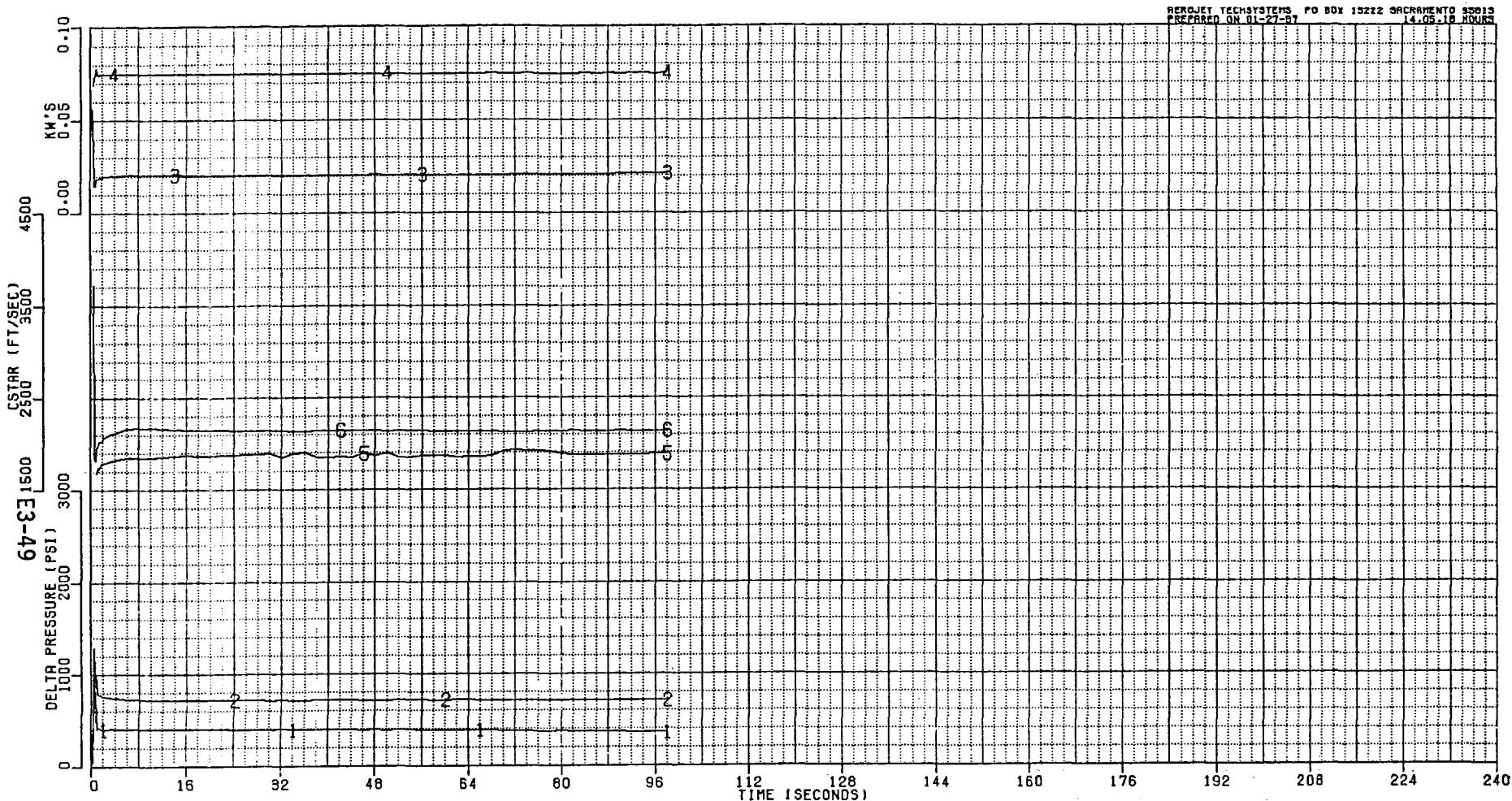


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-120

TEST DATE 10-23-85 2005 HOURS AVERAGED DATA

AEROJET  
**TechSystems**  
 COMPANY

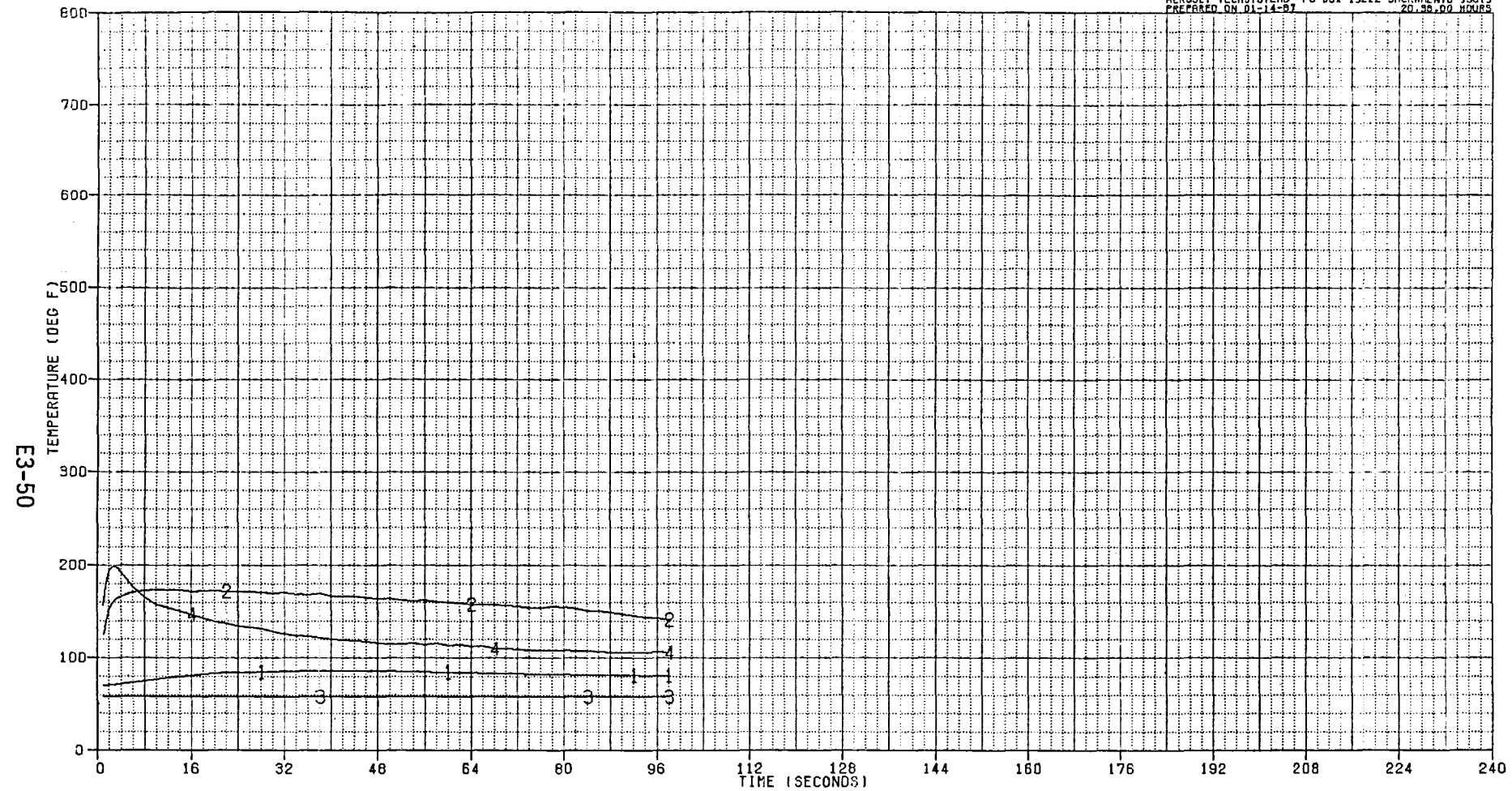


- |          |        |
|----------|--------|
| 1 DPOJ   | PSI    |
| 2 OPFJ   | PSI    |
| 3 KWOJ   |        |
| 4 KWFJ   |        |
| 5 CSTRPB | FT/SEC |
| 6 CSTAR  | FT/SEC |

AEROJET  
  
 COMPANY

INJECTOR CALCULATIONS, VS TIME  
 TEST NO. 2427-936-A6-120

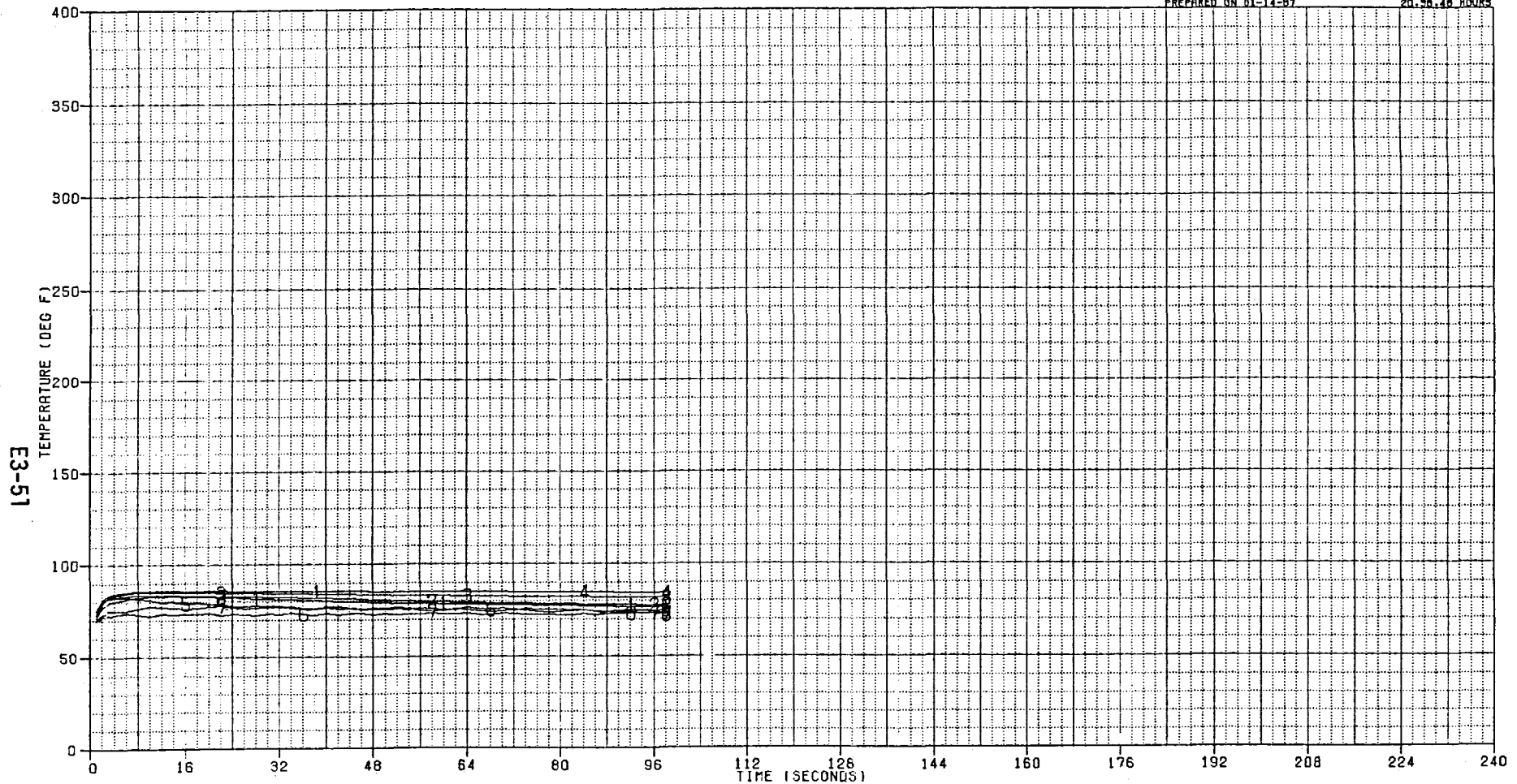
TEST DATE 10-23-85 2005 HOURS      AVERAGED DATA



- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-120  
 BARREL DATA  
 TEST DATE 10-23-85 2005 HOURS AVERAGED DATA



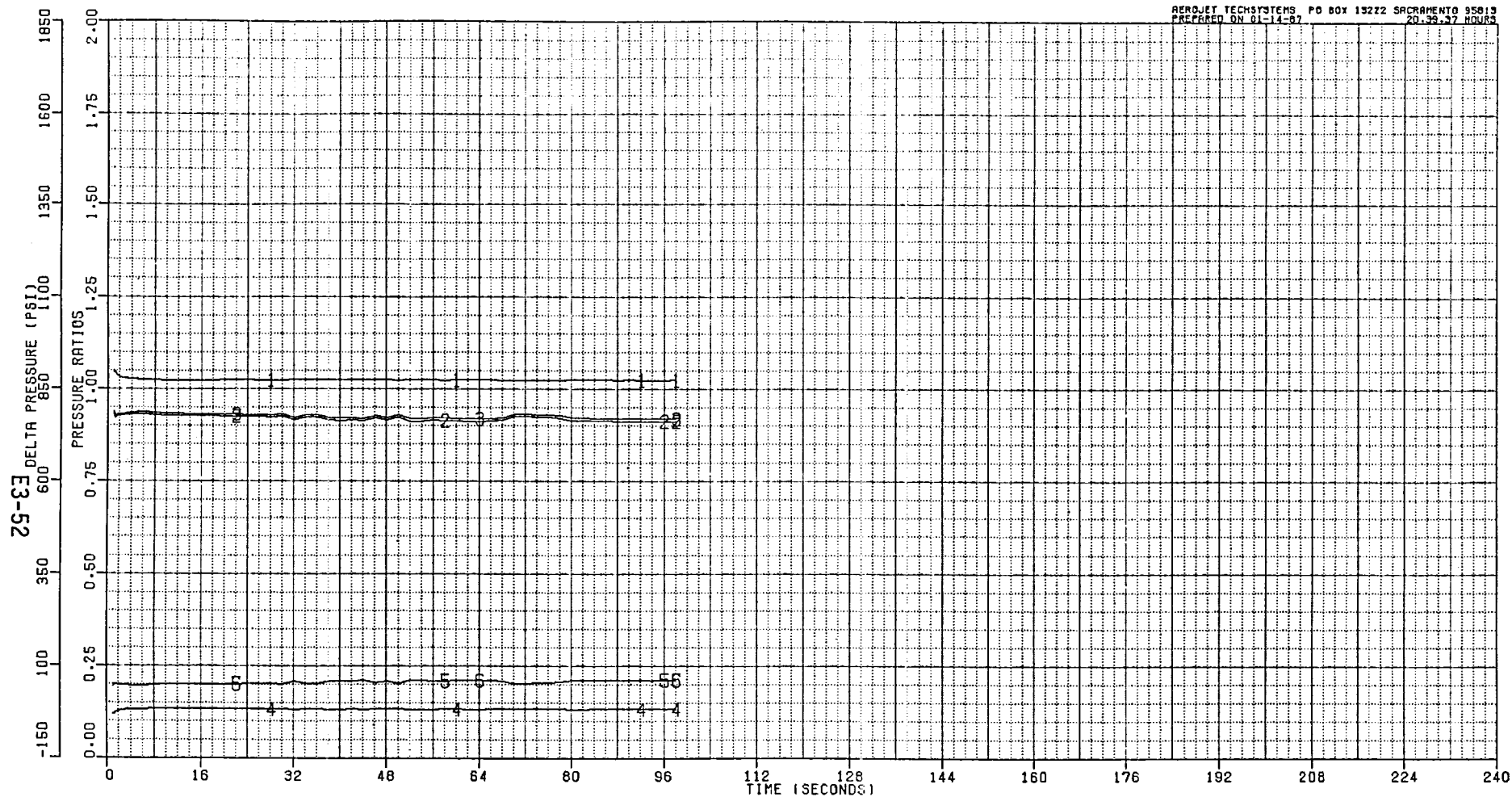


1 TWC-2 DEG F  
 2 TWC-26 DEG F  
 3 TWC-27 DEG F  
 4 TWC-31 DEG F  
 5 TWC-32 DEG F  
 5 TWC-33 DEG F  
 7 TC-7C DEG F

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**@TechSystems**  
 COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-120

TEST DATE 10-23-85 2005 HOURS AVERAGED DATA



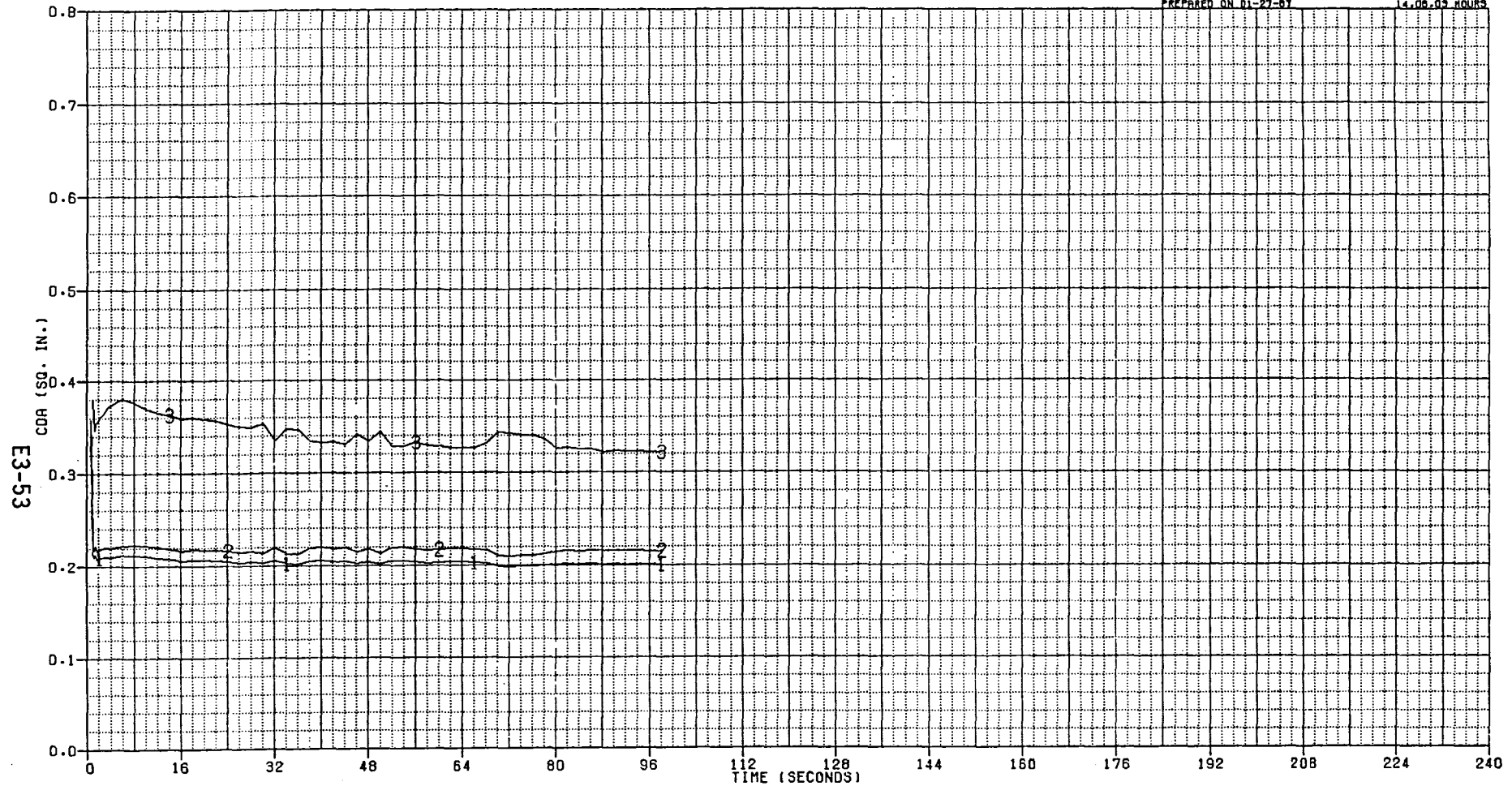
- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI



TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-120  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 10-23-85 2005 HOURS AVERAGED DATA

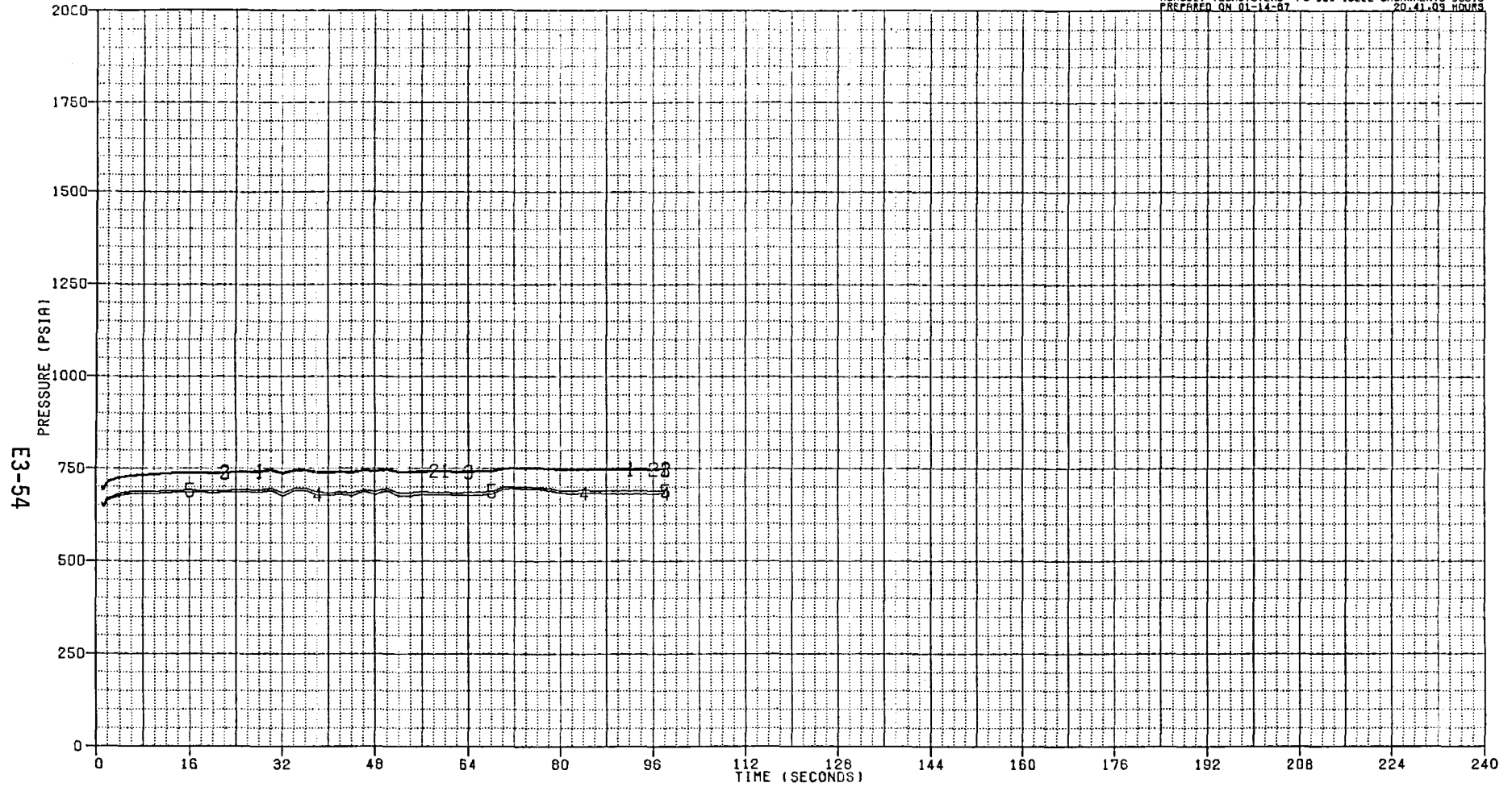
AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-27-87 14.05.03 HOURS



1 NA1 SQ. IN.  
2 NA2 SQ. IN.  
3 COA

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-936-A6-120  
NOZZLE AREA CHANGE  
TEST DATE 10-23-85 2005 HOURS AVERAGED DATA

AEROJET  
@TechSystems  
COMPANY



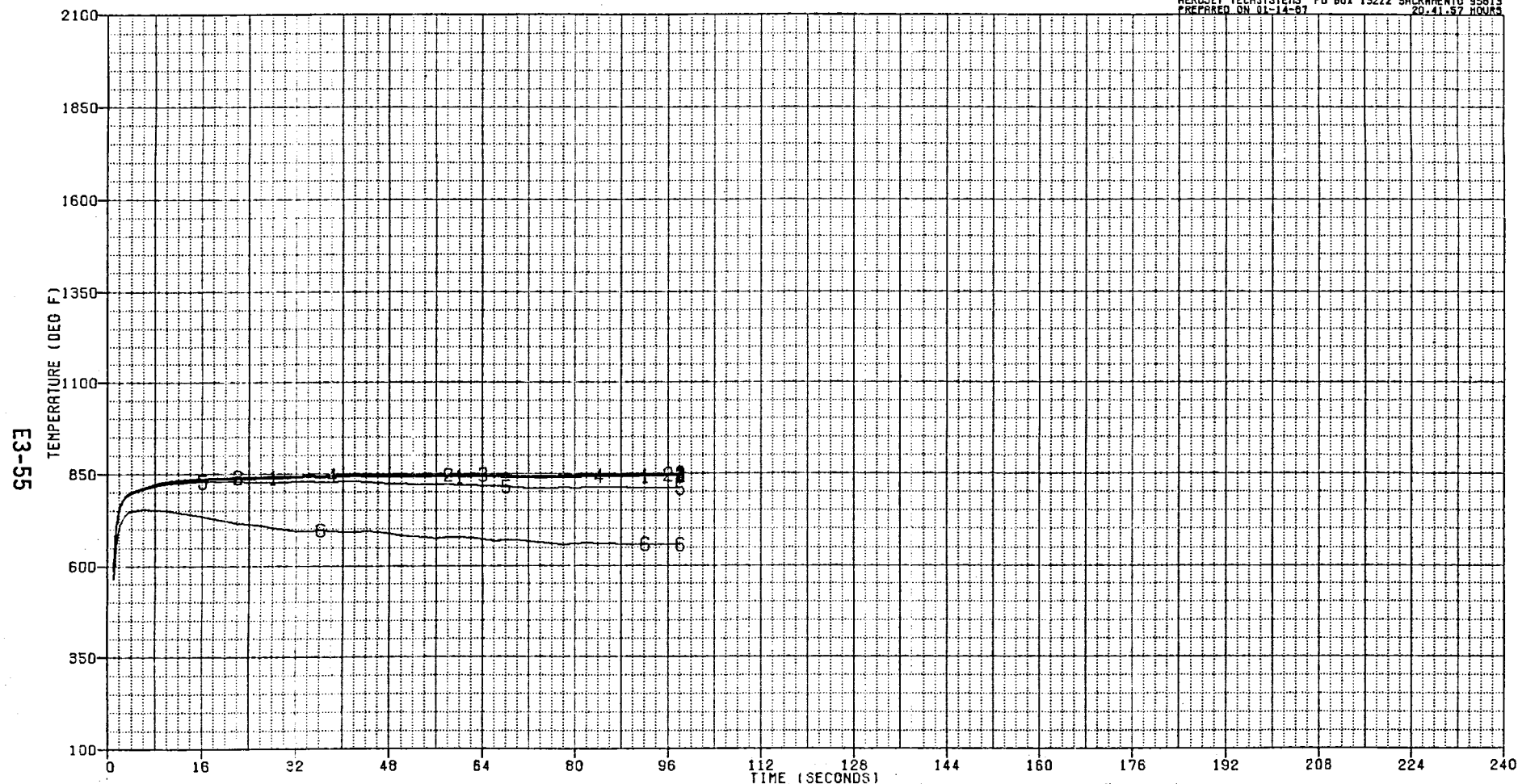
E3-54

- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-120  
PRESSURE MEASUREMENTS  
TEST DATE 10-23-85 2005 HOURS AVERAGED DATA





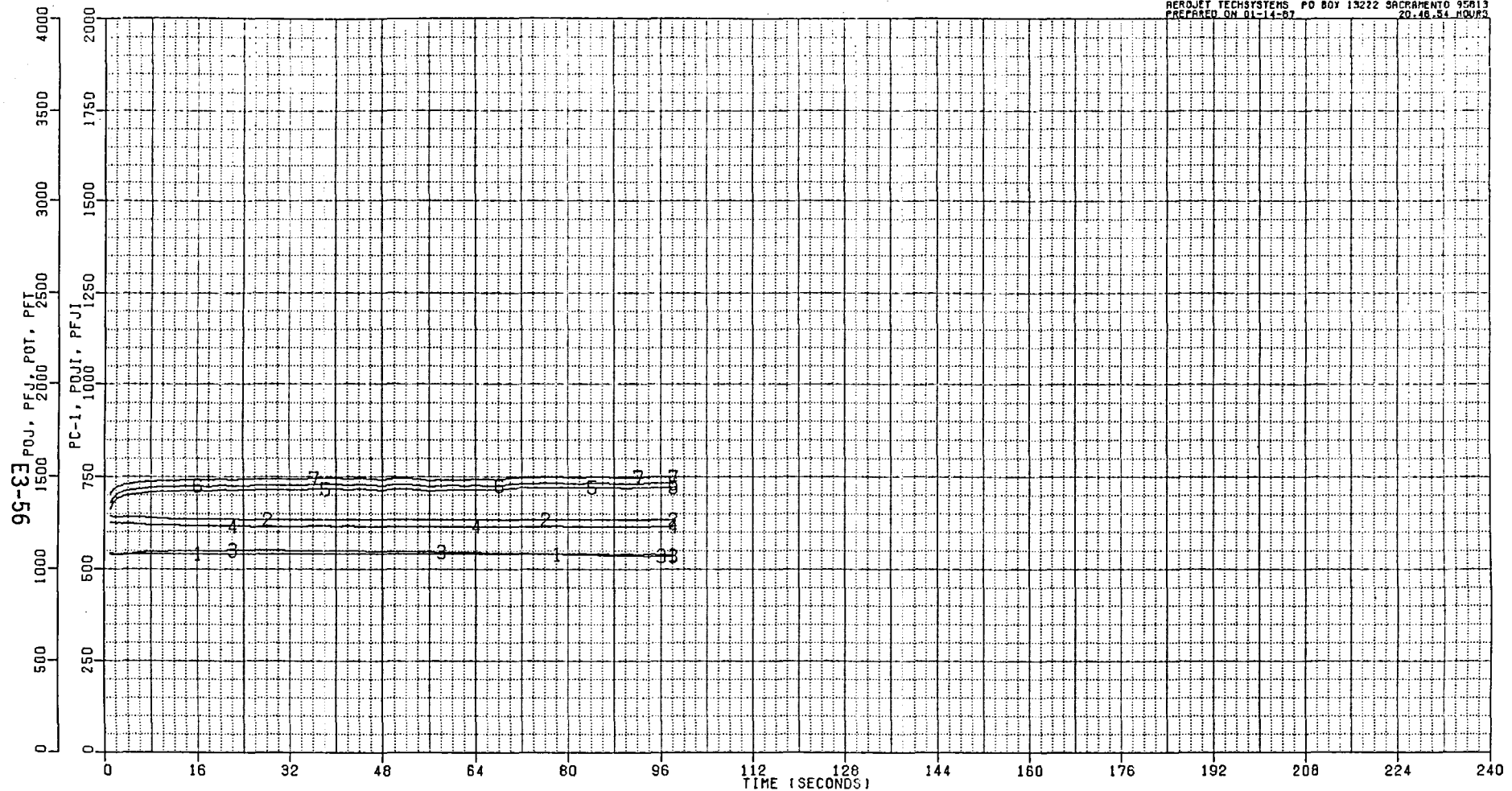
- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-120

PRESSURE MEASUREMENTS  
 TEST DATE 10-23-85 2005 HOURS AVERAGED DATA



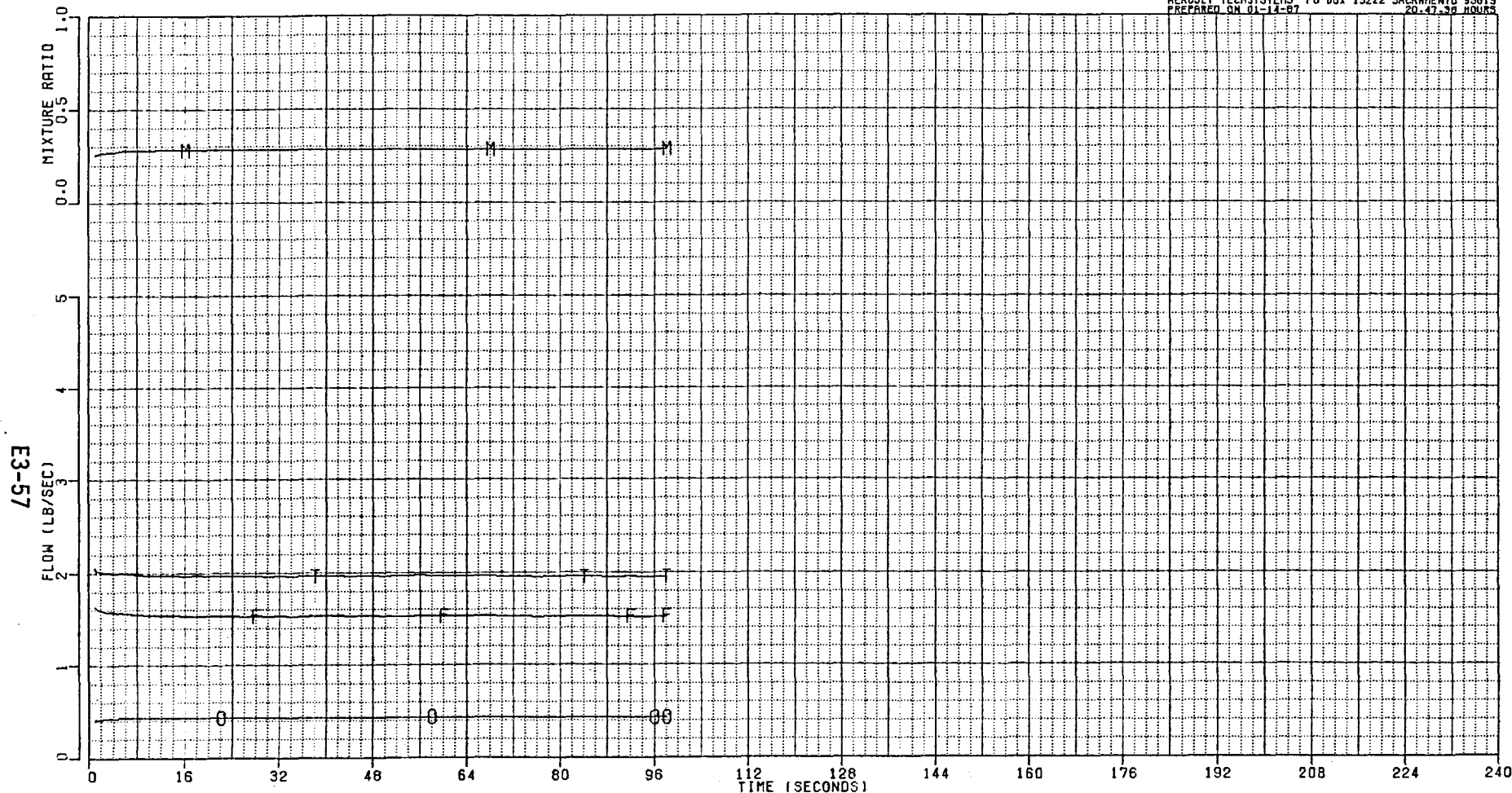


- |        |      |
|--------|------|
| 1 POT  | PSIA |
| 2 PFT  | PSIA |
| 3 POJ  | PSIA |
| 4 PFJ  | PSIA |
| 5 PC-1 | PSIA |
| 6 POJI | PSIA |
| 7 PFJI | PSIA |



MEASURED PRESSURES VS TIME  
 TEST NO. 2427-936-A6-121

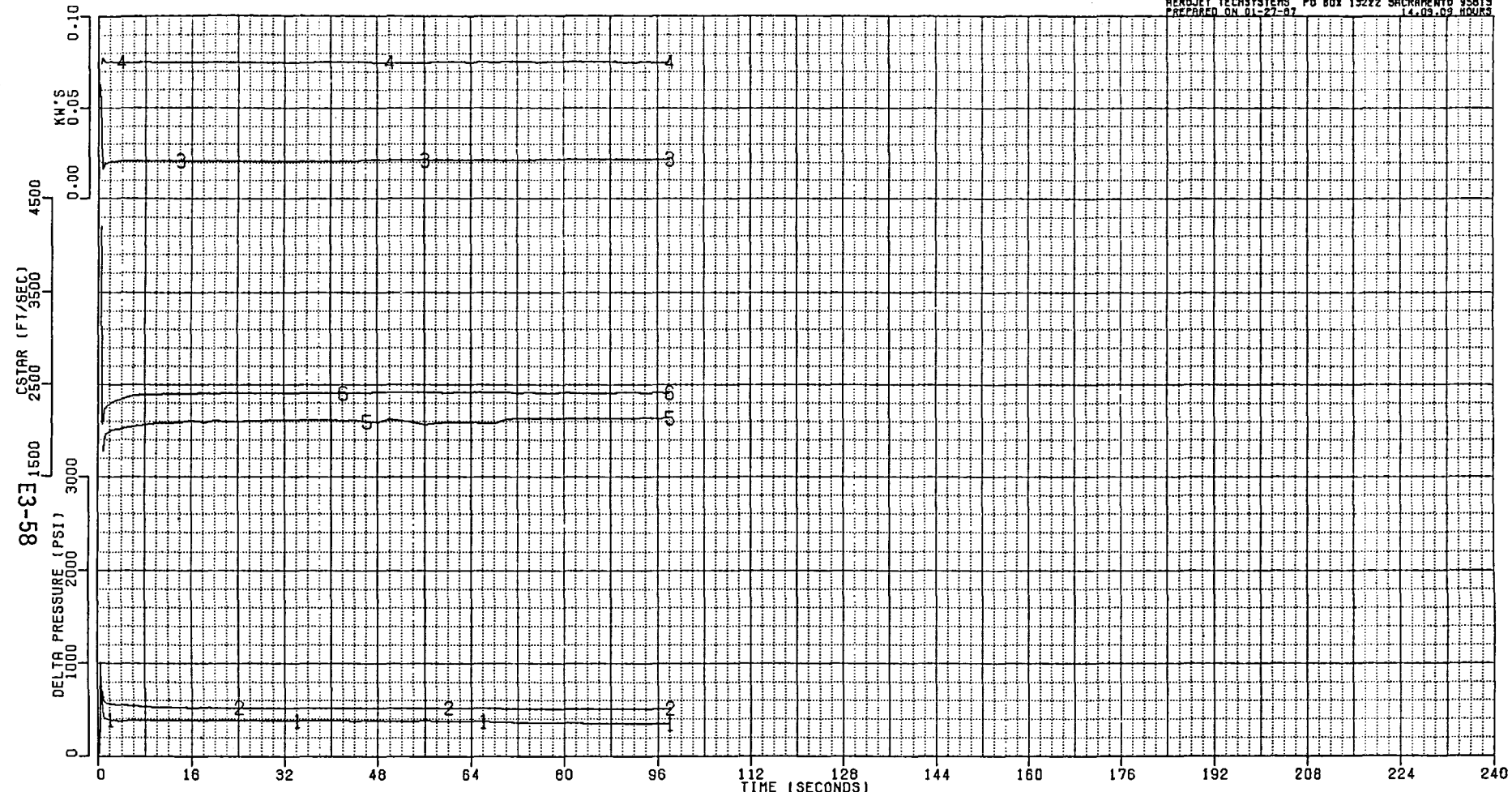
TEST DATE 10-23-85 2017 HOURS AVERAGED DATA



F WF LBS/SEC  
O WOX LBS/SEC  
T WTOT LBS/SEC  
M MR

INJECTOR FLOW VS TIME  
TEST NO. 2427-936-A6-121

TEST DATE 10-23-85 2017 HOURS AVERAGED DATA

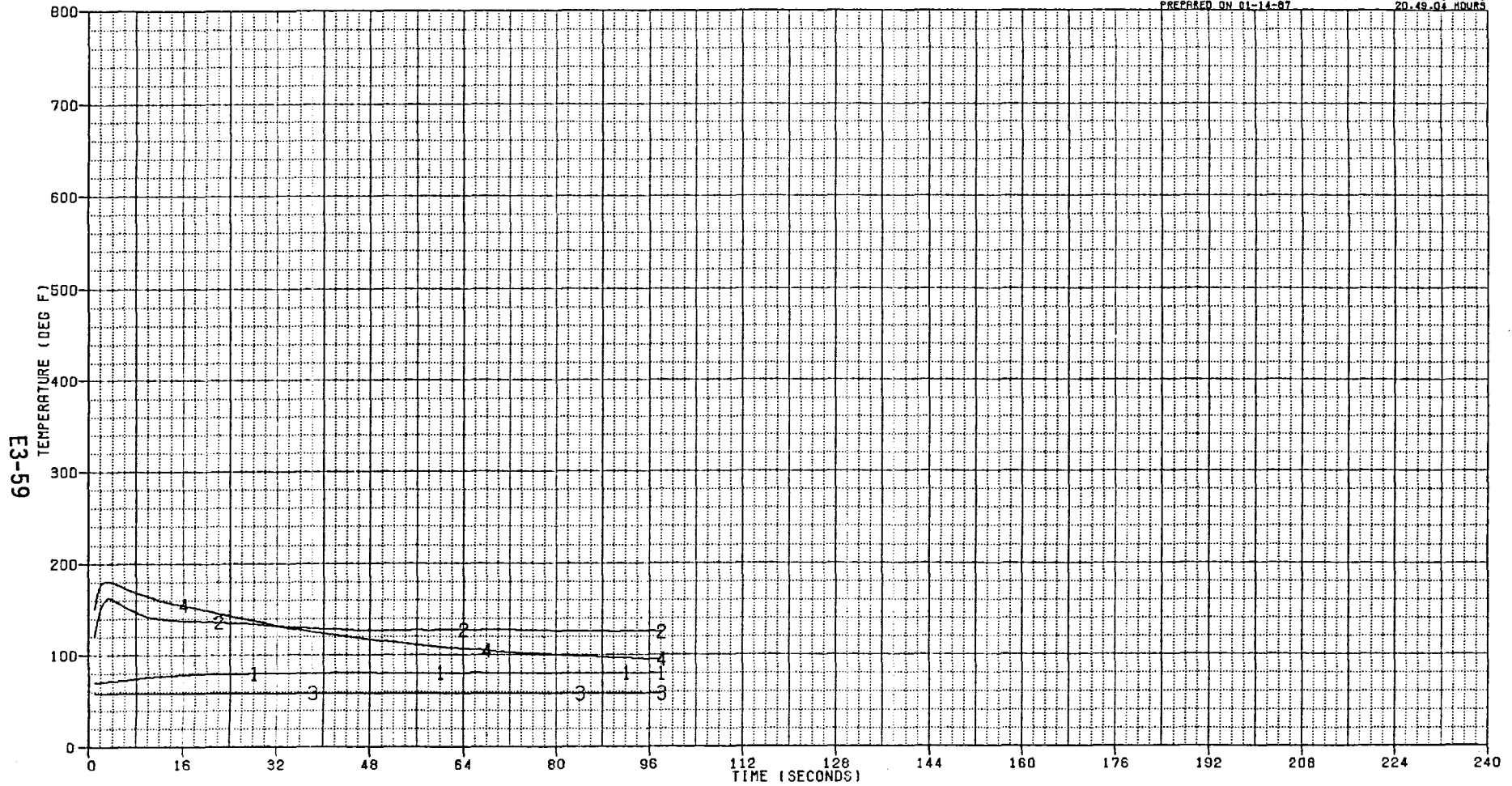


- 1 DPQJ PSI
- 2 DPFJ PSI
- 3 KHQJ
- 4 KWFJ
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC



# INJECTOR CALCULATIONS VS TIME TEST NO. 2427-936-A6-121

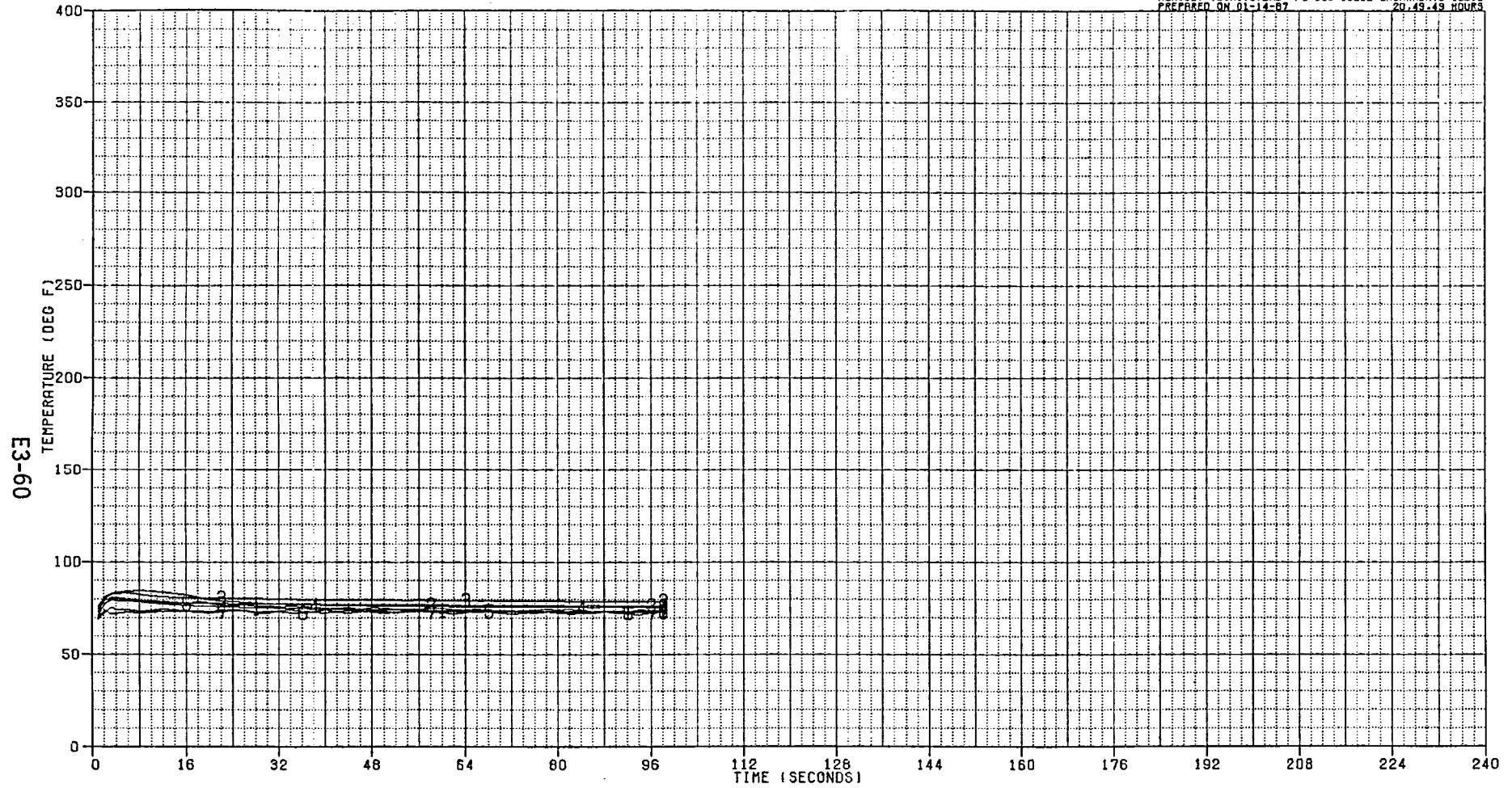
TEST DATE 10-23-85 2017 HOURS AVERAGED DATA



1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

AEROJET  
**TechSystems**  
 COMPANY

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-121  
 BARREL DATA  
 TEST DATE 10-23-85 2017 HOURS AVERAGED DATA

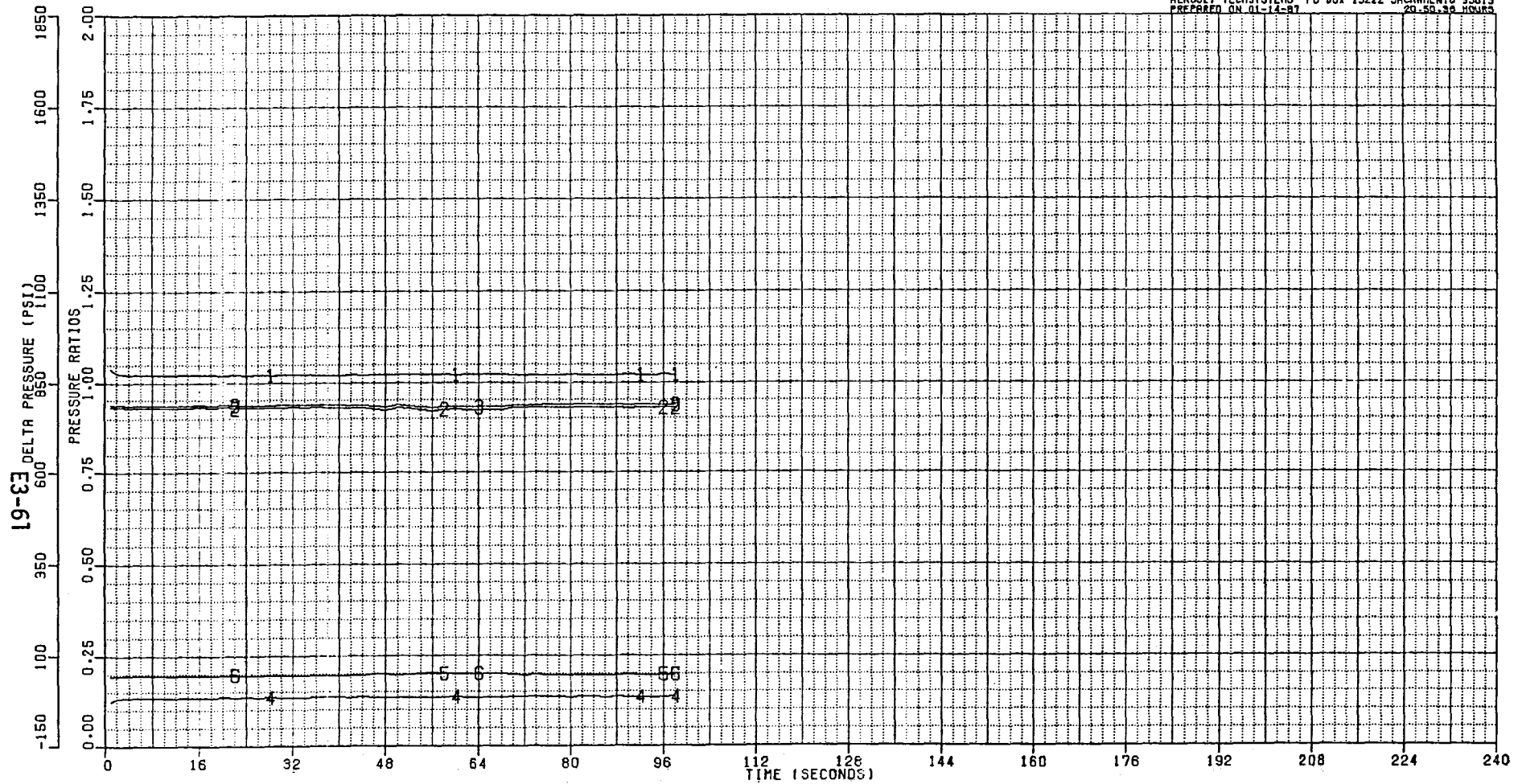


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F



COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-121

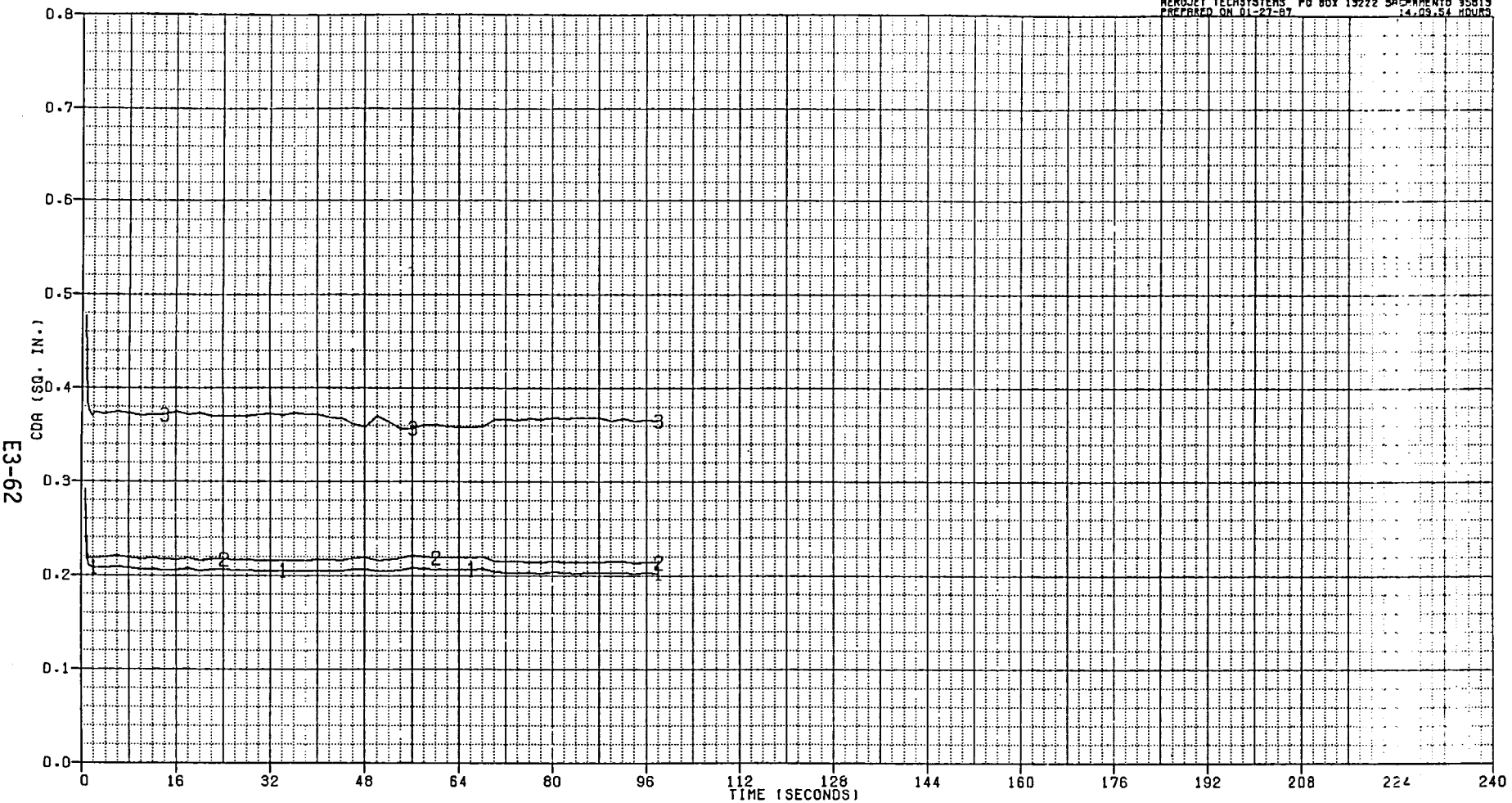
TEST DATE 10-23-85 2017 HOURS AVERAGED DATA



- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR PSI
- 5 DPTS-C PSI
- 6 DPTS PSI

AEROJET  
**@TechSystems**  
 COMPANY

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-121  
 CHAMBER PRESSURE DROPS AND RATIOS  
 TEST DATE 10-23-85 2017 HOURS AVERAGED DATA

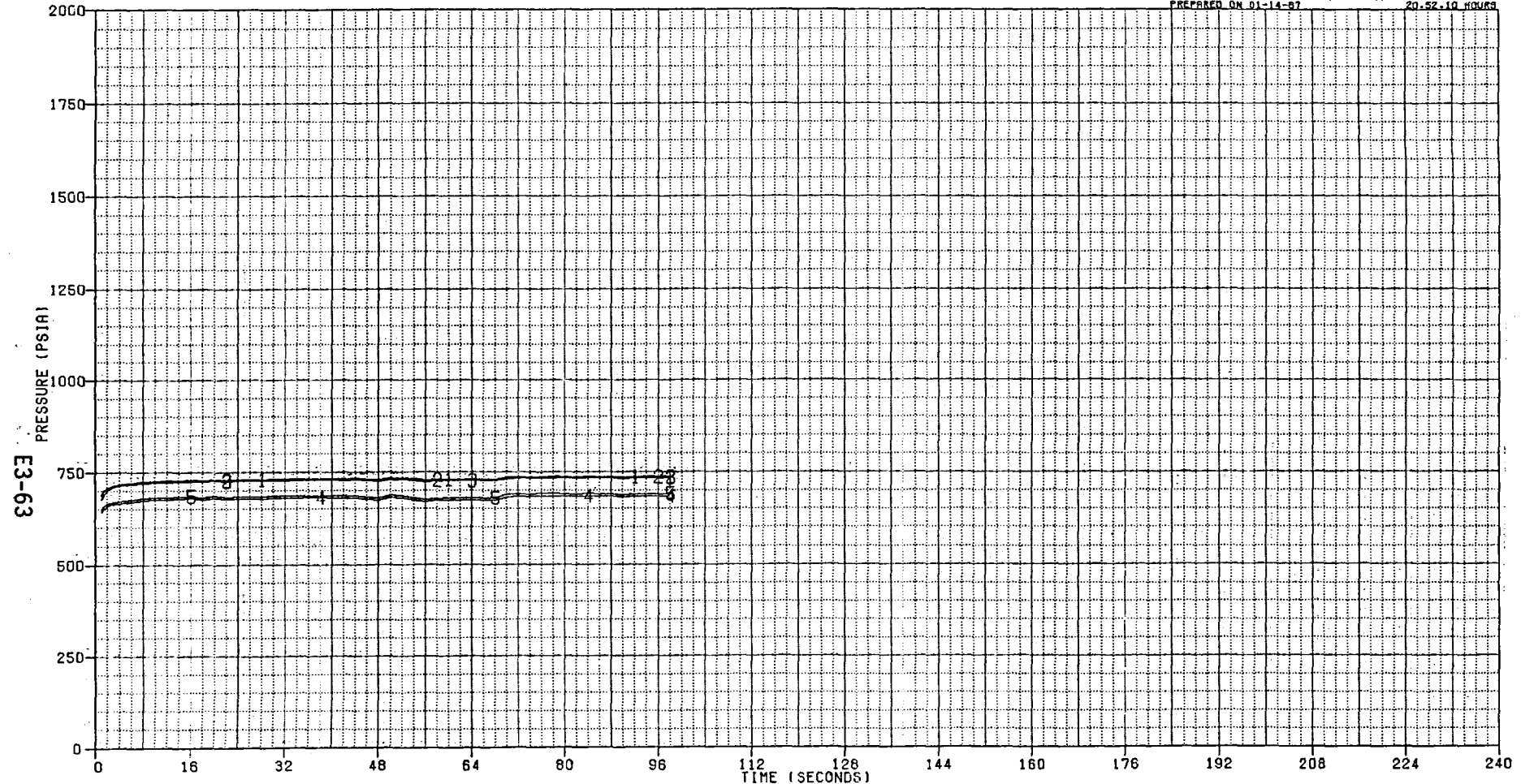


1 NA1 SQ. IN.  
2 NA2 SQ. IN.  
3 CDA

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-936-A6-121  
NOZZLE AREA CHANGE  
TEST DATE 10-23-85 2017 HOURS AVERAGED DATA

AEROJET  
**TechSystems**  
COMPANY



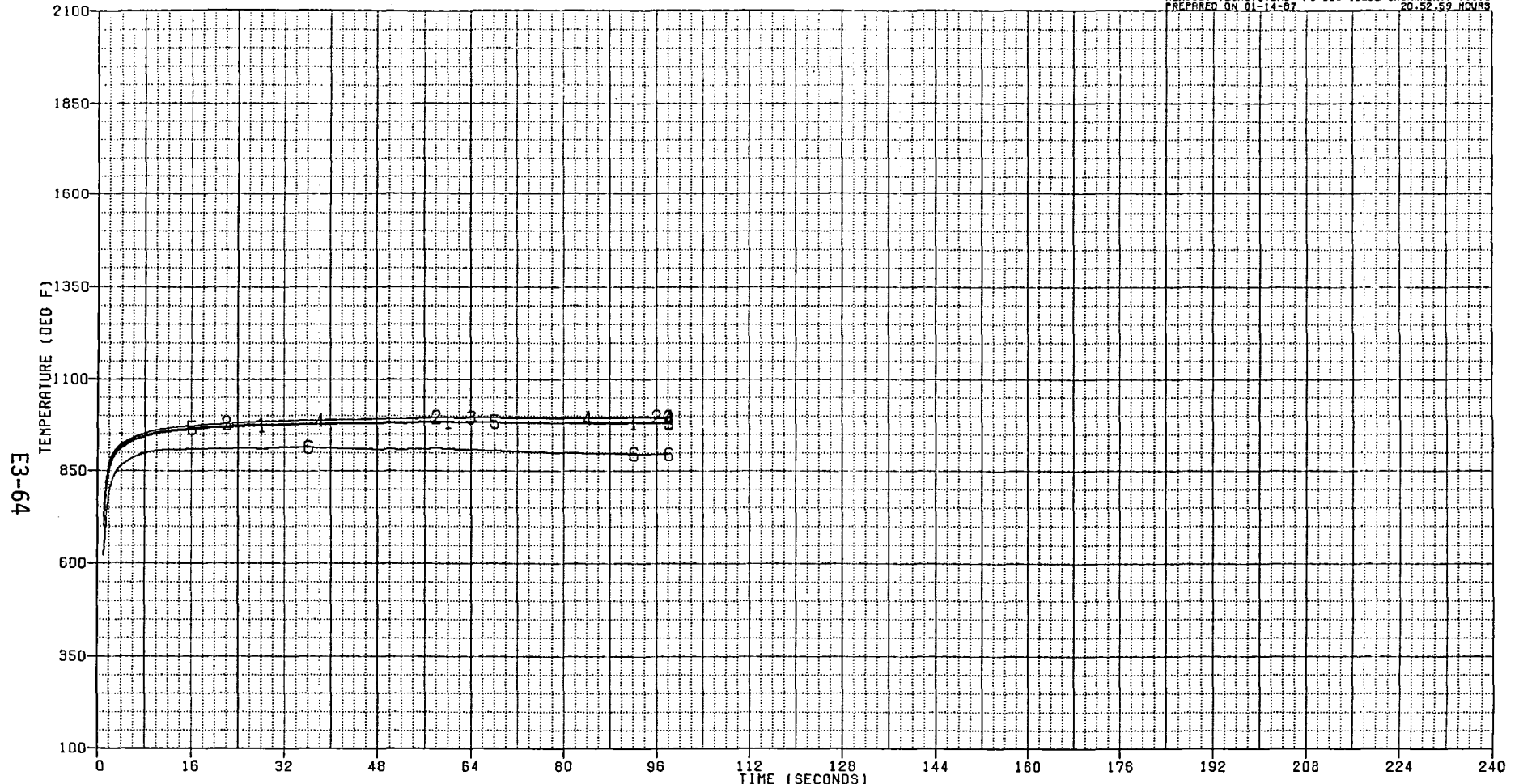


- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-121  
PRESSURE MEASUREMENTS  
TEST DATE 10-23-85 2017 HOURS AVERAGED DATA



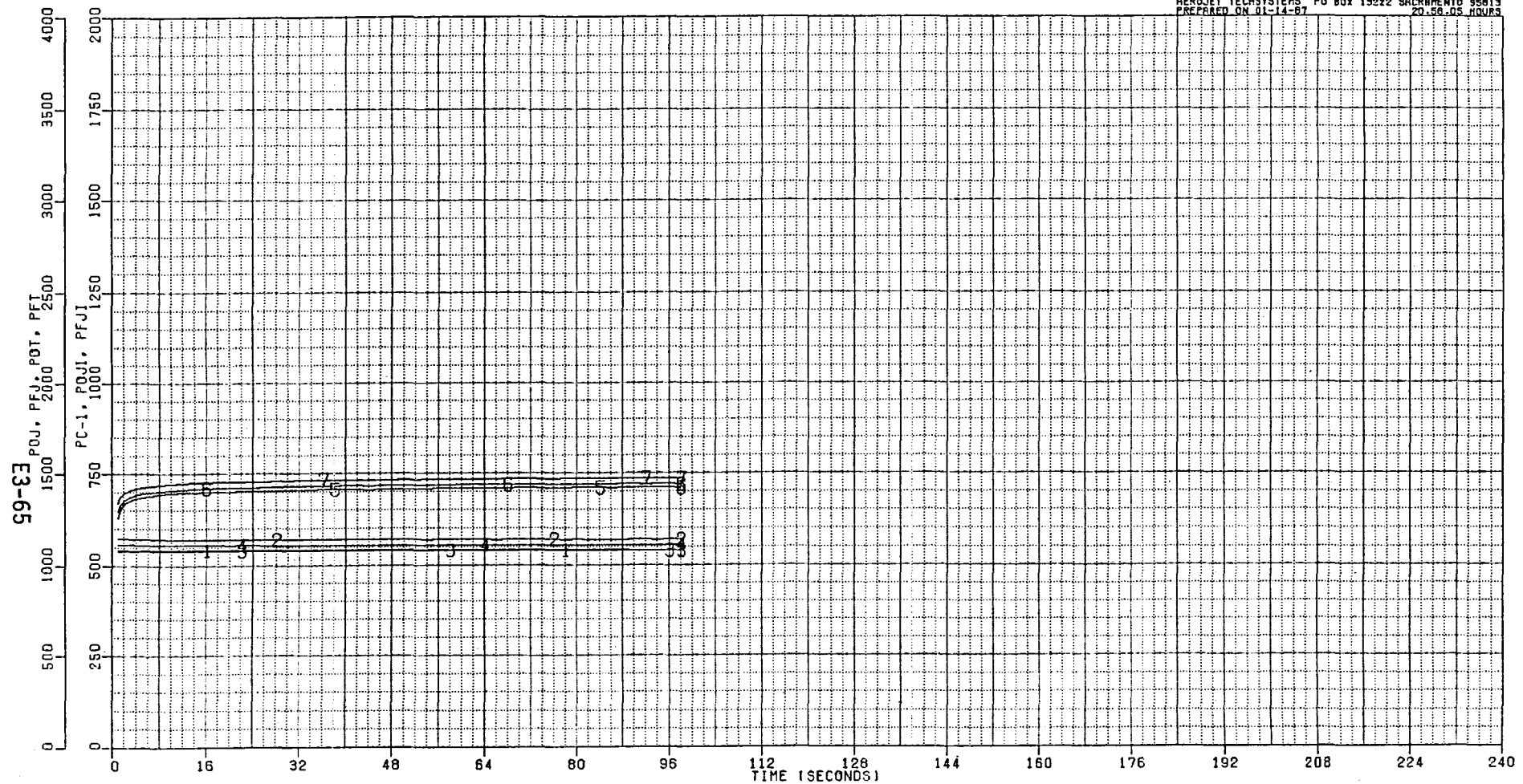


E3-64

- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-121  
PRESSURE MEASUREMENTS  
TEST DATE 10-23-85 2017 HOURS AVERAGED DATA



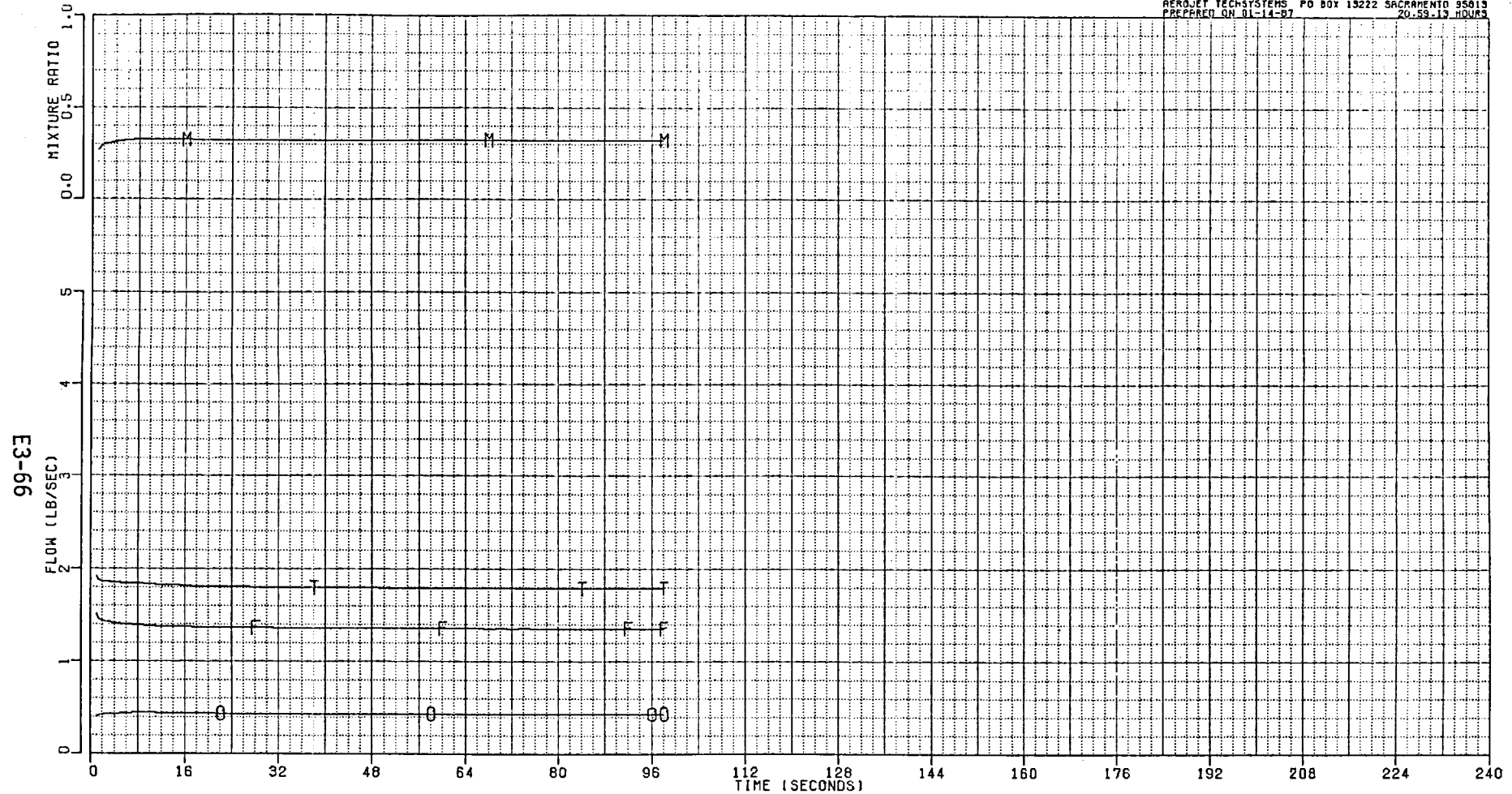
|        |      |
|--------|------|
| 1 POT  | PSIA |
| 2 PFT  | PSIA |
| 3 POJ  | PSIA |
| 4 PFJ  | PSIA |
| 5 PC-1 | PSIA |
| 6 POJI | PSIA |
| 7 PFJI | PSIA |

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 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-936-A6-122

TEST DATE 10-23-85 2113 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS PO BOX 15222 SACRAMENTO 95813  
 PREPARED ON 01-14-87 20:58:05 HOURS

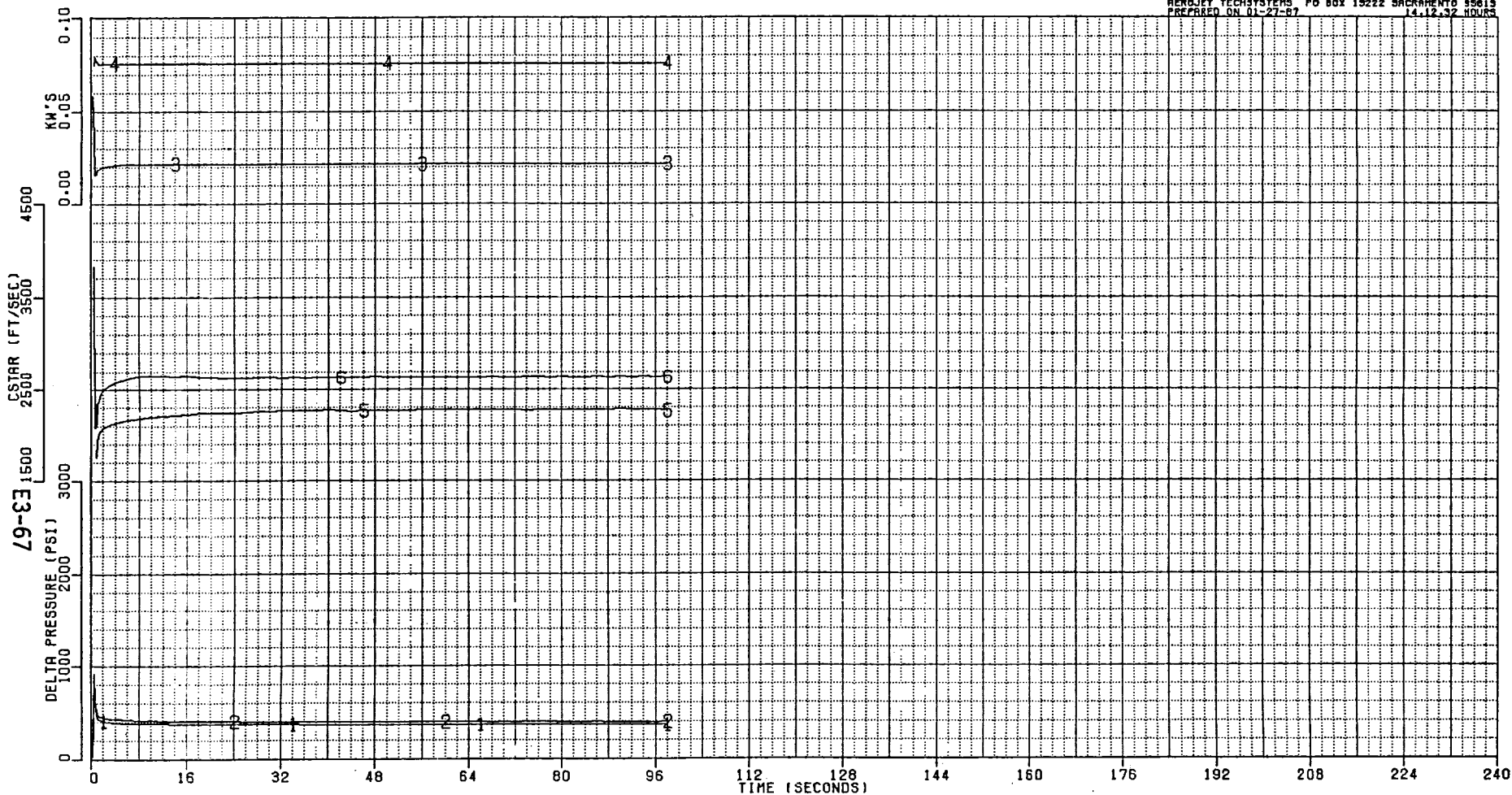


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-122

TEST DATE 10-23-85 2113 HOURS AVERAGED DATA

AEROJET  
**TechSystems**  
 COMPANY



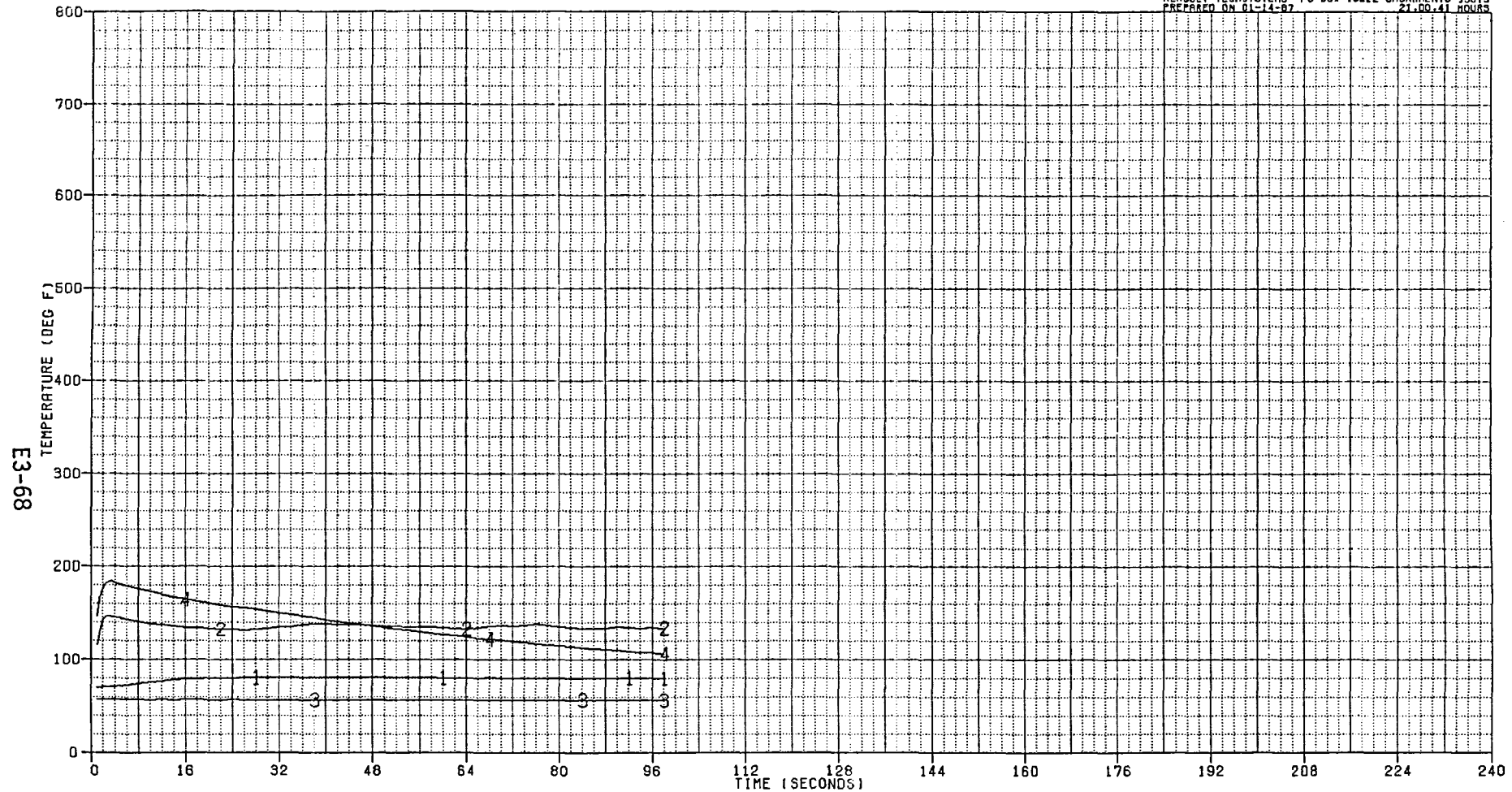
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95613  
 PREPARED ON 01-27-87 14.12.32 HOURS

- 1 OPQJ PSI
- 2 DPFJ PSI
- 3 KWOJ
- 4 KWFJ FT/SEC
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-122

TEST DATE 10-23-85 2113 HOURS AVERAGED DATA

AEROJET  
**TechSystems**  
 COMPANY

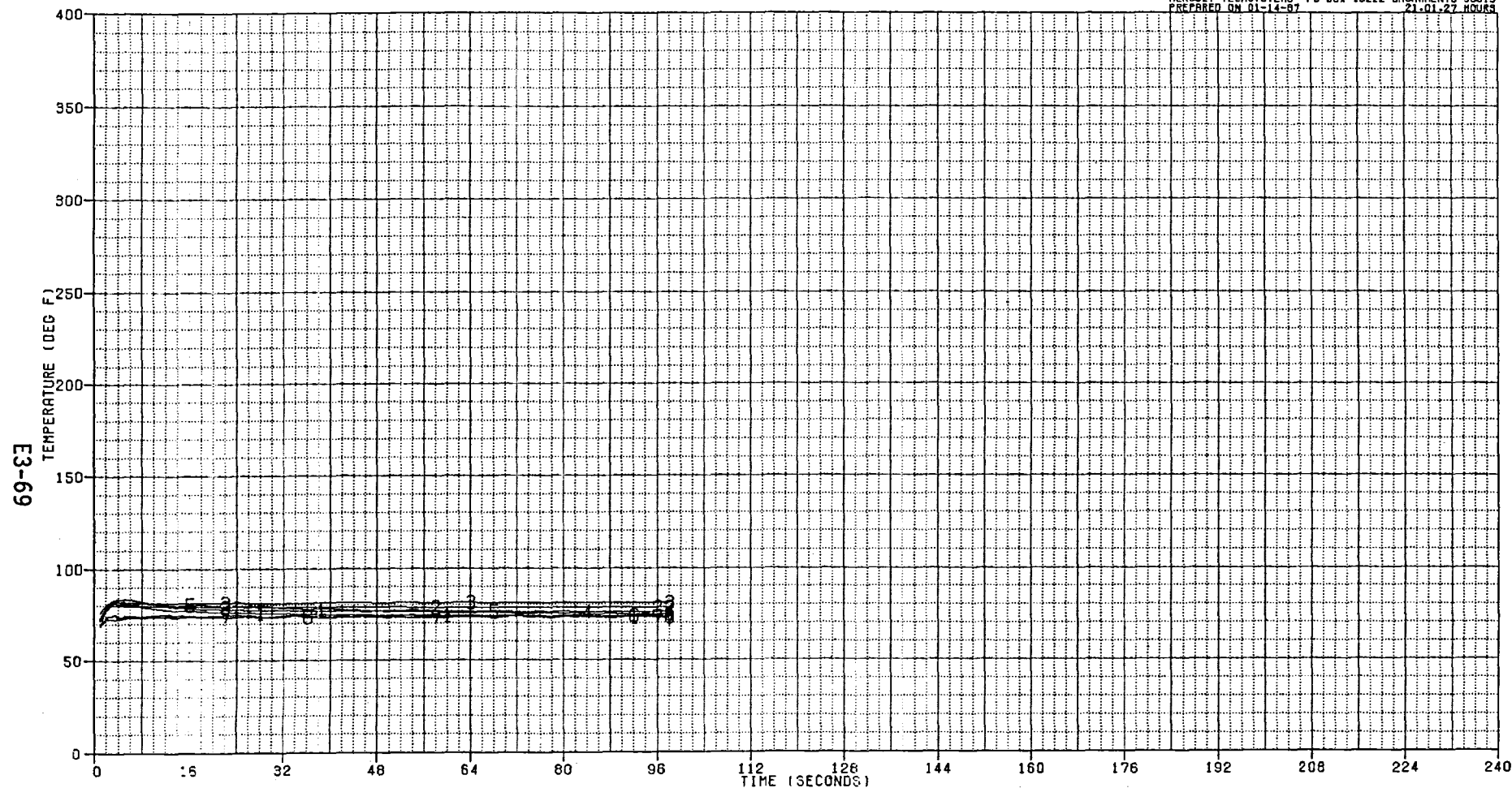


1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

AEROJET  
**TechSystems**  
 COMPANY

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-122  
 BARREL DATA  
 TEST DATE 10-23-85 2113 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS PD BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-14-87 21-01-27 HOURS

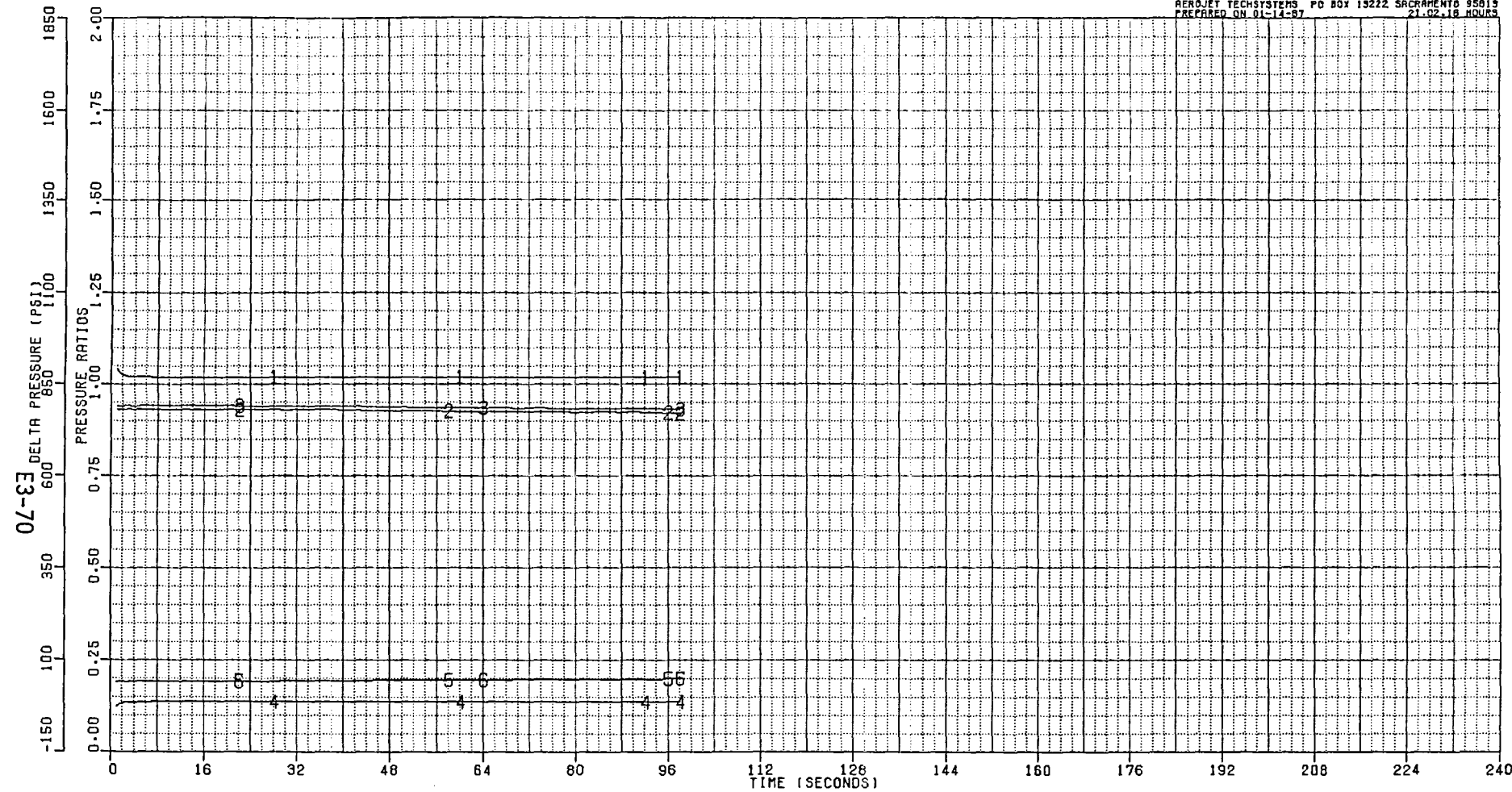


1 TWC-2 DEG F  
2 TWC-26 DEG F  
3 TWC-27 DEG F  
4 TWC-31 DEG F  
5 TWC-32 DEG F  
6 TWC-33 DEG F  
7 TC-7C DEG F

AEROJET  
@TechSystems  
COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-122

TEST DATE 10-23-85 2113 HOURS AVERAGED DATA



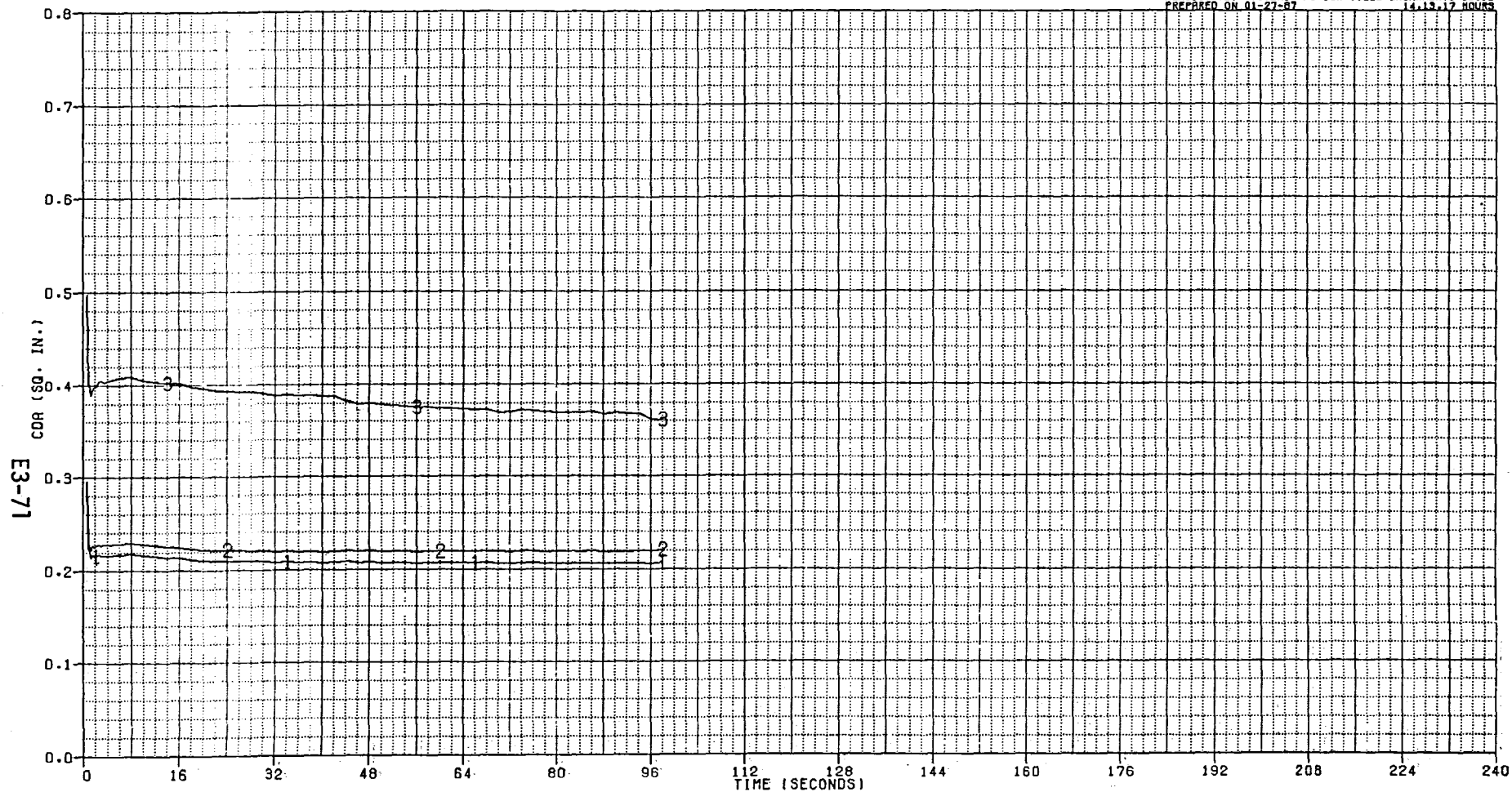
- 1 PRTR
  - 2 PRTS
  - 3 PRTS CORR
  - 4 DPTR
  - 5 DPTS-C
  - 6 DPTS
- PSI  
PSI  
PSI



TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-122  
 CHAMBER PRESSURE DROPS AND RATIOS  
 TEST DATE 10-23-85 2113 HOURS AVERAGED DATA



AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-27-87 14.13.17 HOURS

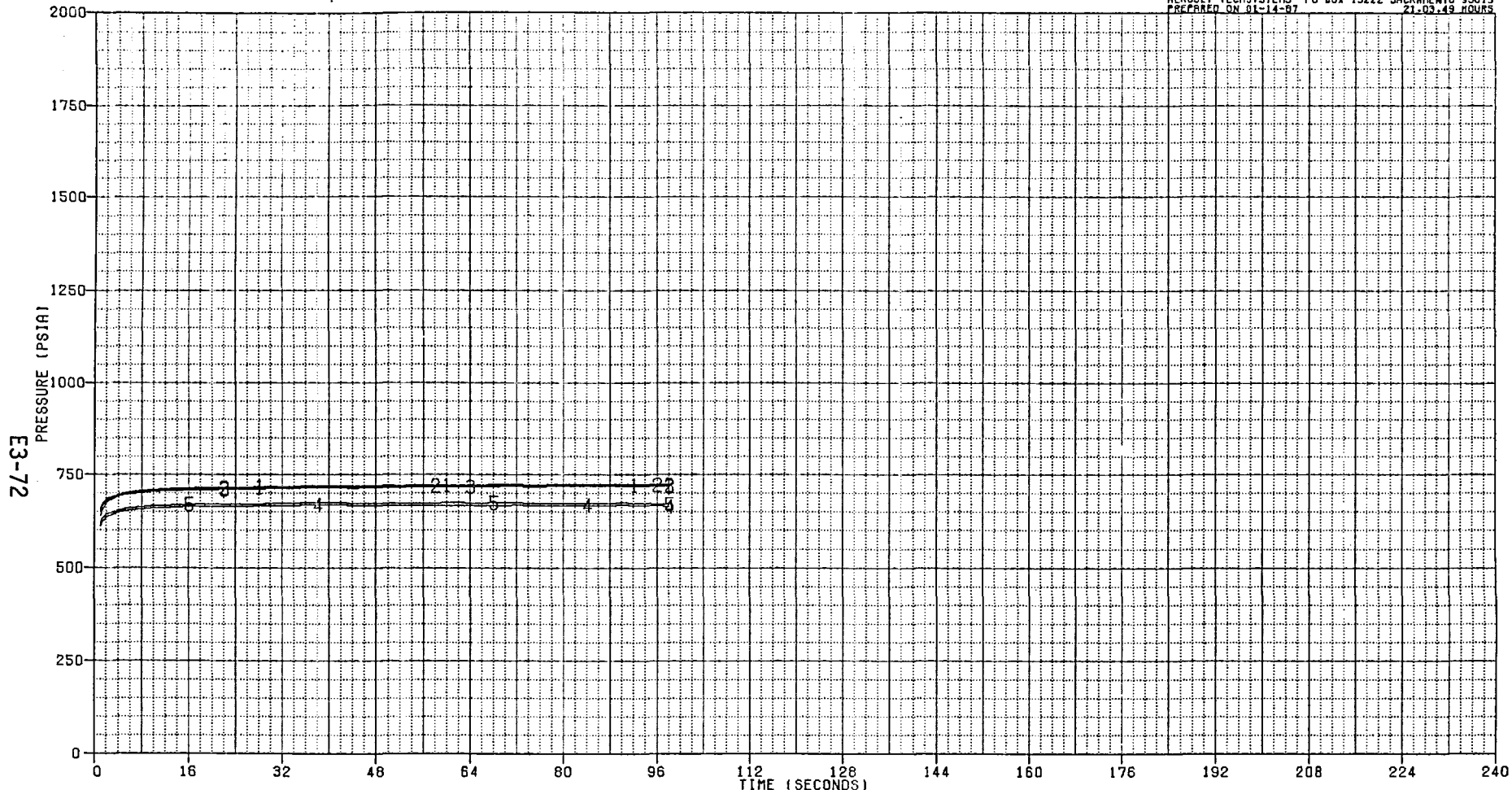


1 NA1. SQ.IN.  
2 NA2 SC.IN.  
3 CDR.

AEROJET  
@TechSystems  
COMPANY

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-936-A6-122  
NOZZLE AREA CHANGE  
TEST DATE 10-23-85 2113 HOURS AVERAGED DATA

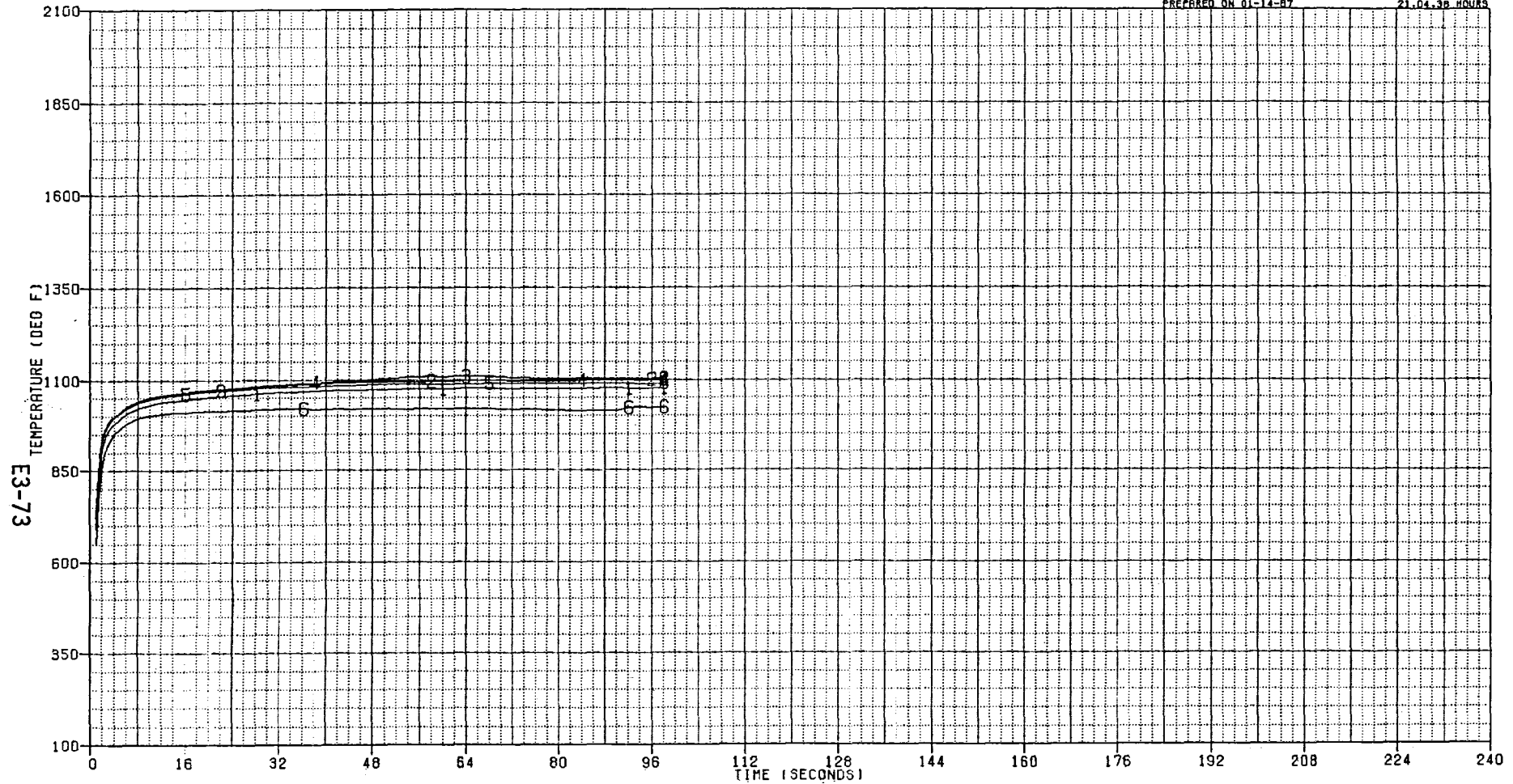




- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



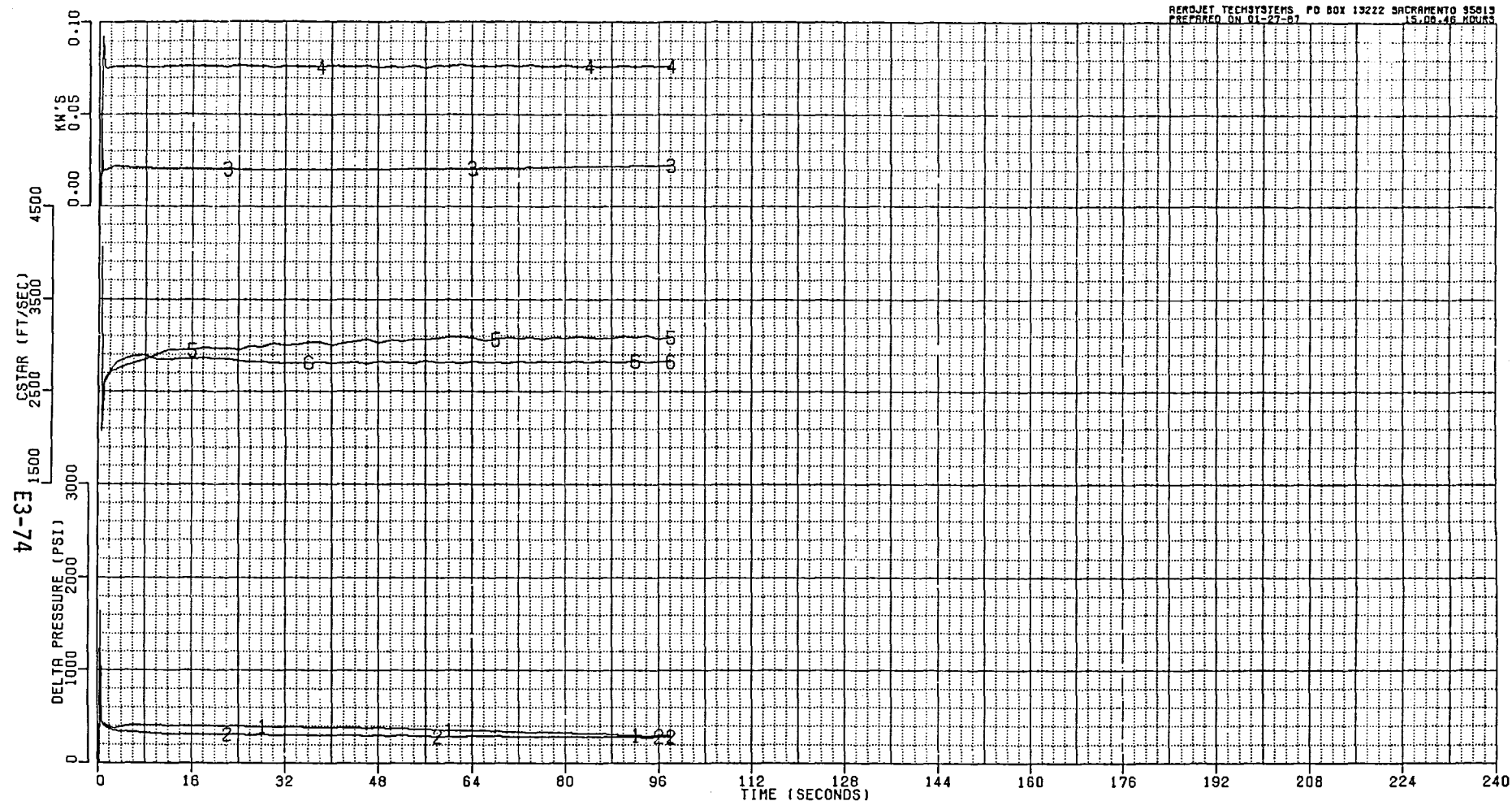
TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-122  
PRESSURE MEASUREMENTS  
TEST DATE 10-23-85 2113 HOURS AVERAGED DATA



- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



**GAS TEMPERATURES VS TIME**  
**TEST NO. 2427-936-A6-122**  
 PRESSURE MEASUREMENTS  
 TEST DATE 10-23-85 2113 HOURS AVERAGED DATA

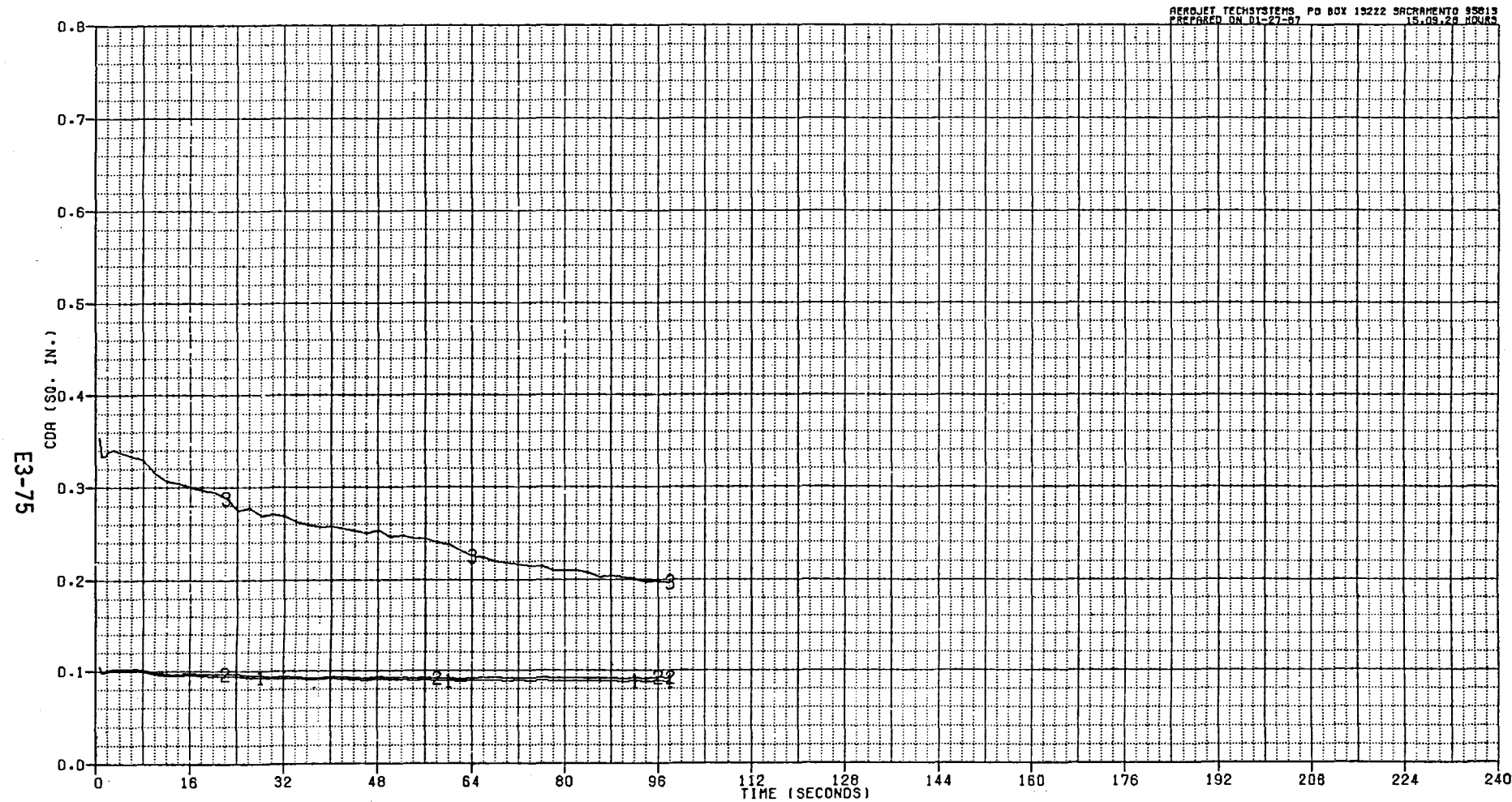


1 DPOJ PSI  
 2 DPFJ PSI  
 3 KWQJ PSI  
 4 KWFJ PSI  
 5 CSTRPB FT/SEC  
 6 CSTAR FT/SEC

AEROJET  
**TechSystems**  
 COMPANY

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-139

TEST DATE 11-07-85 1423 HOURS AVERAGED DATA



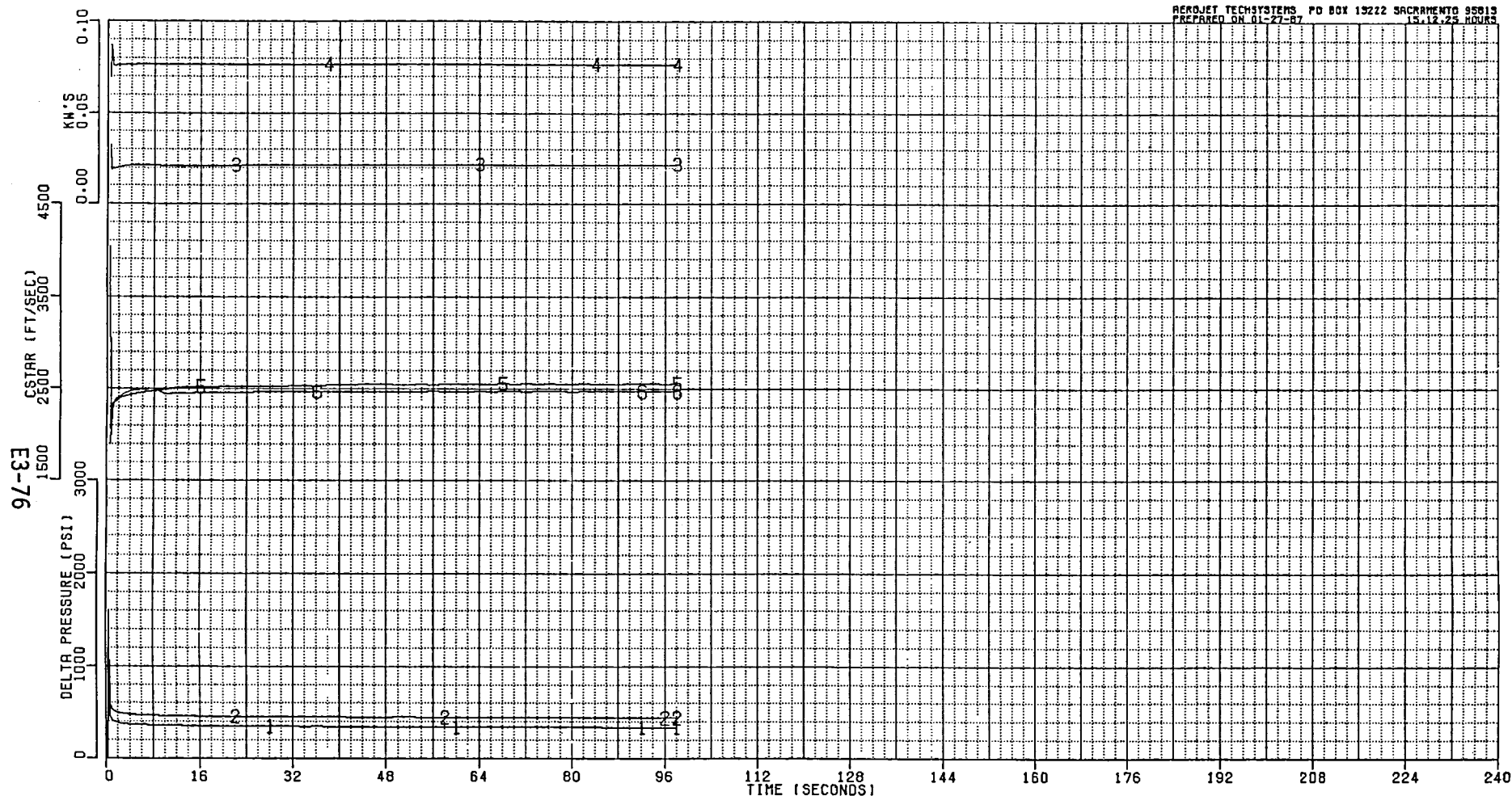
E3-75

AEROJET TECHSYSTEMS PO BOX 15222 SACRAMENTO 95813  
 PREPARED ON 01-27-87 15.09.28 HOURS

1 NA1 50 IN.  
 2 NA2 50 IN.  
 3 CDA

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-139  
 NOZZLE AREA CHANGE  
 TEST DATE 11-07-85 1423 HOURS AVERAGED DATA



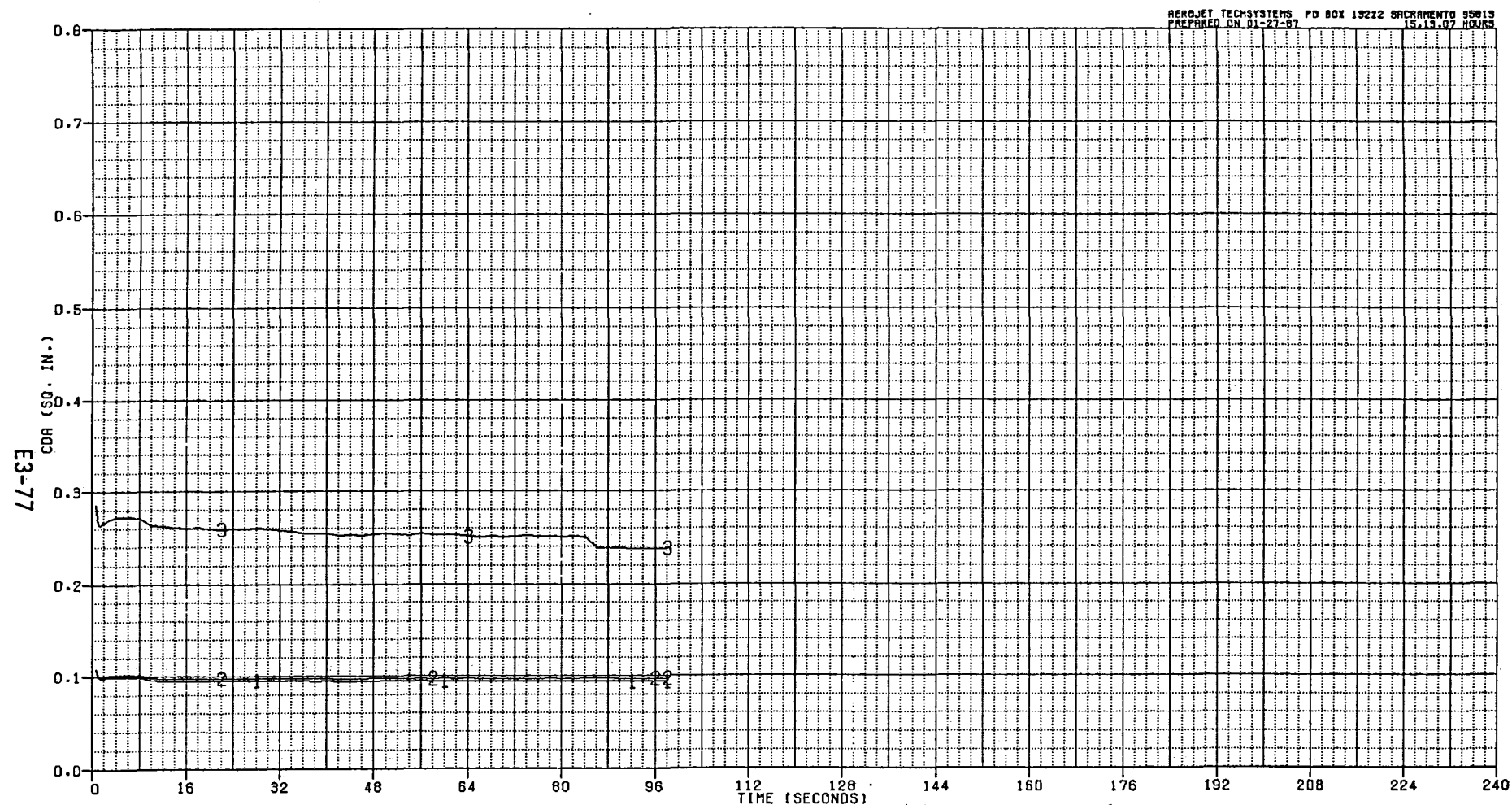


AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-27-87 15.12.25 HOURS

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-936-A6-140

TEST DATE 11-07-85 1436 HOURS AVERAGED DATA

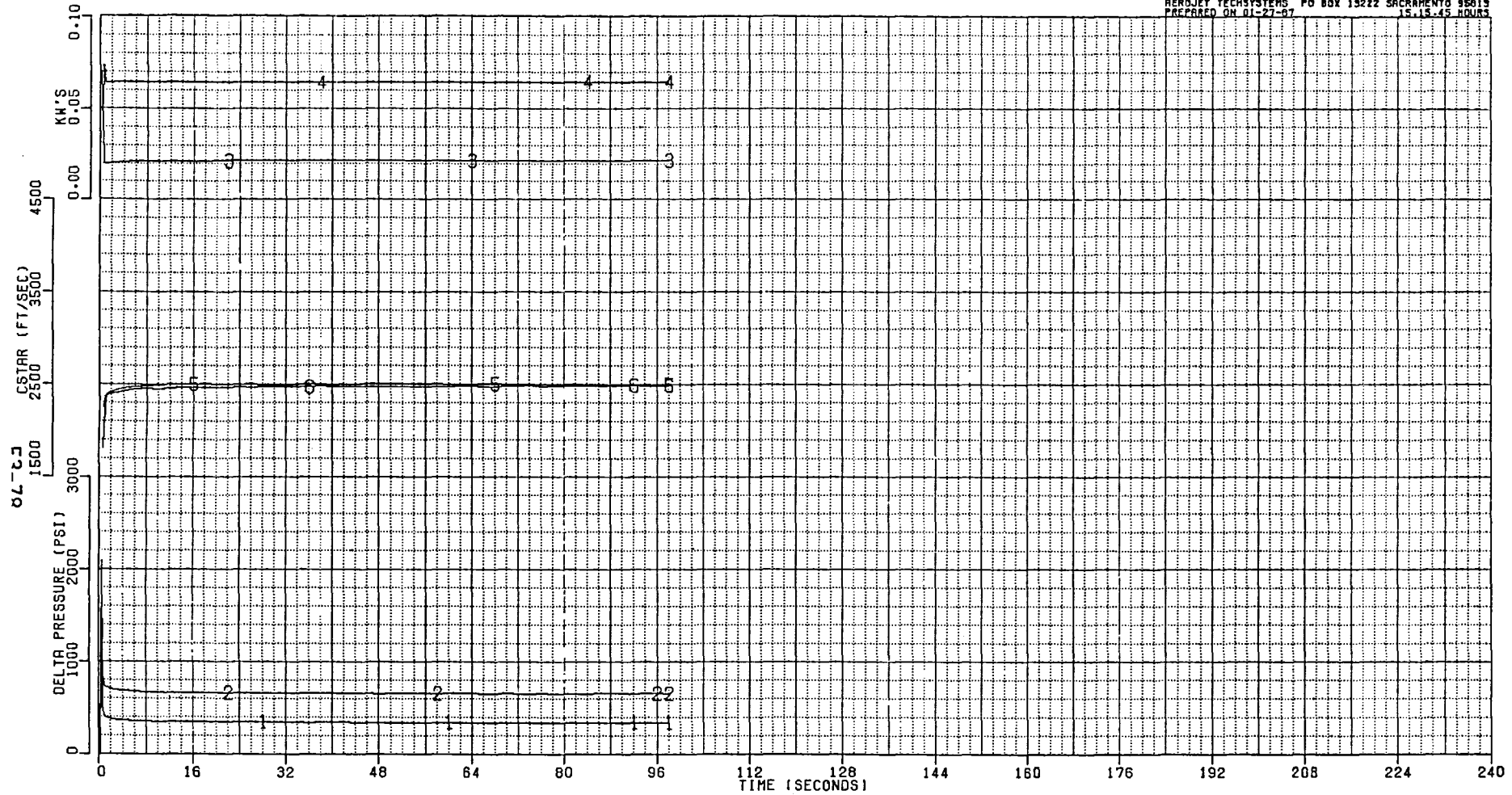
AEROJET  
TechSystems  
COMPANY



AEROJET TECHSYSTEMS, PO BOX 13212 SACRAMENTO 95813  
 PREPARED ON 01-27-87 15:13.07 HOURS

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-140  
 NOZZLE AREA CHANGE  
 TEST DATE 11-07-85 1436 HOURS AVERAGED DATA





- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWQJ PSI
- 4 KWFJ PSI
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

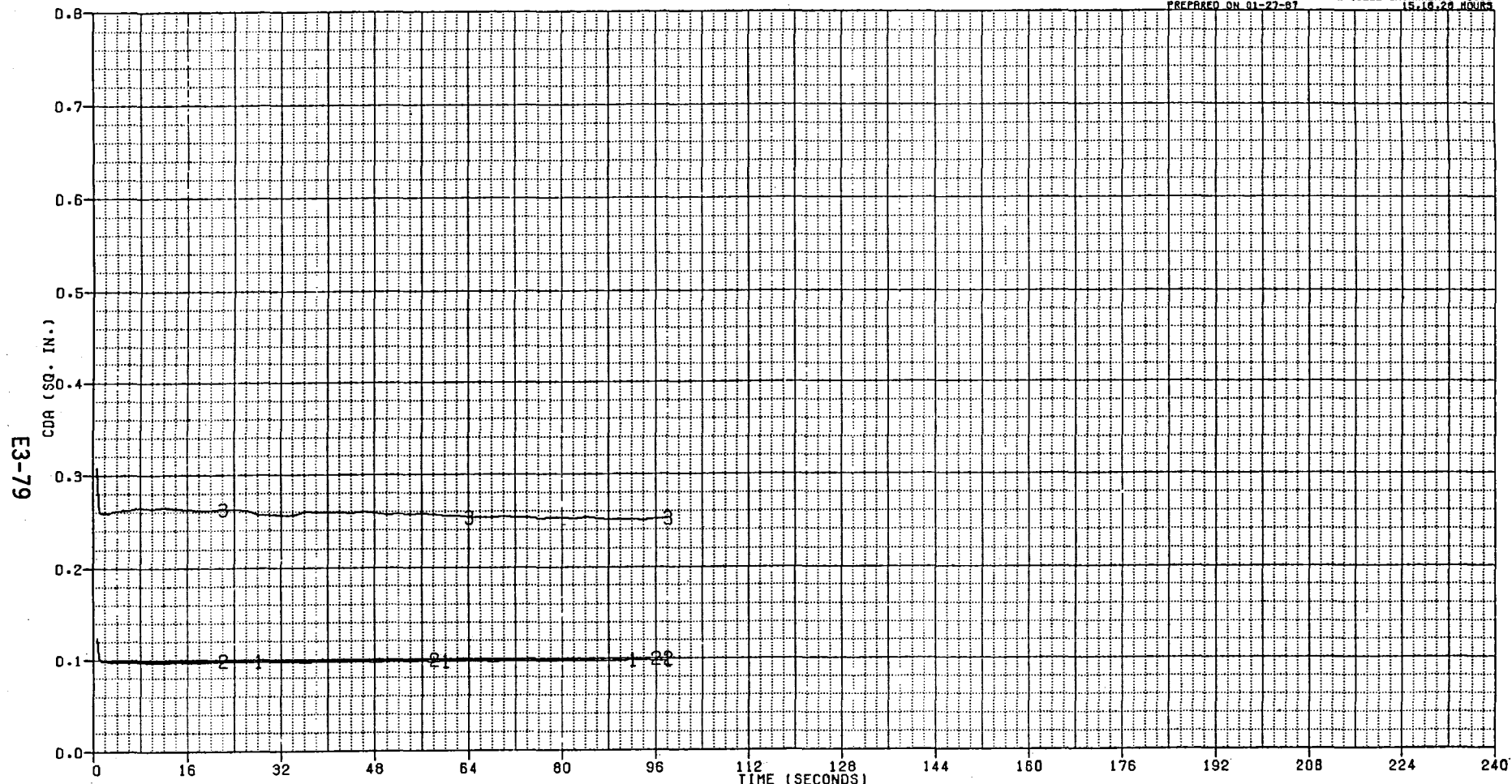


# INJECTOR CALCULATIONS VS TIME TEST NO. 2427-936-A6-141

TEST DATE 11-07-85 1446 HOURS AVERAGED DATA



AEROJET TECHSYSTEMS, P.O. BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-27-87 15:16:20 HOURS

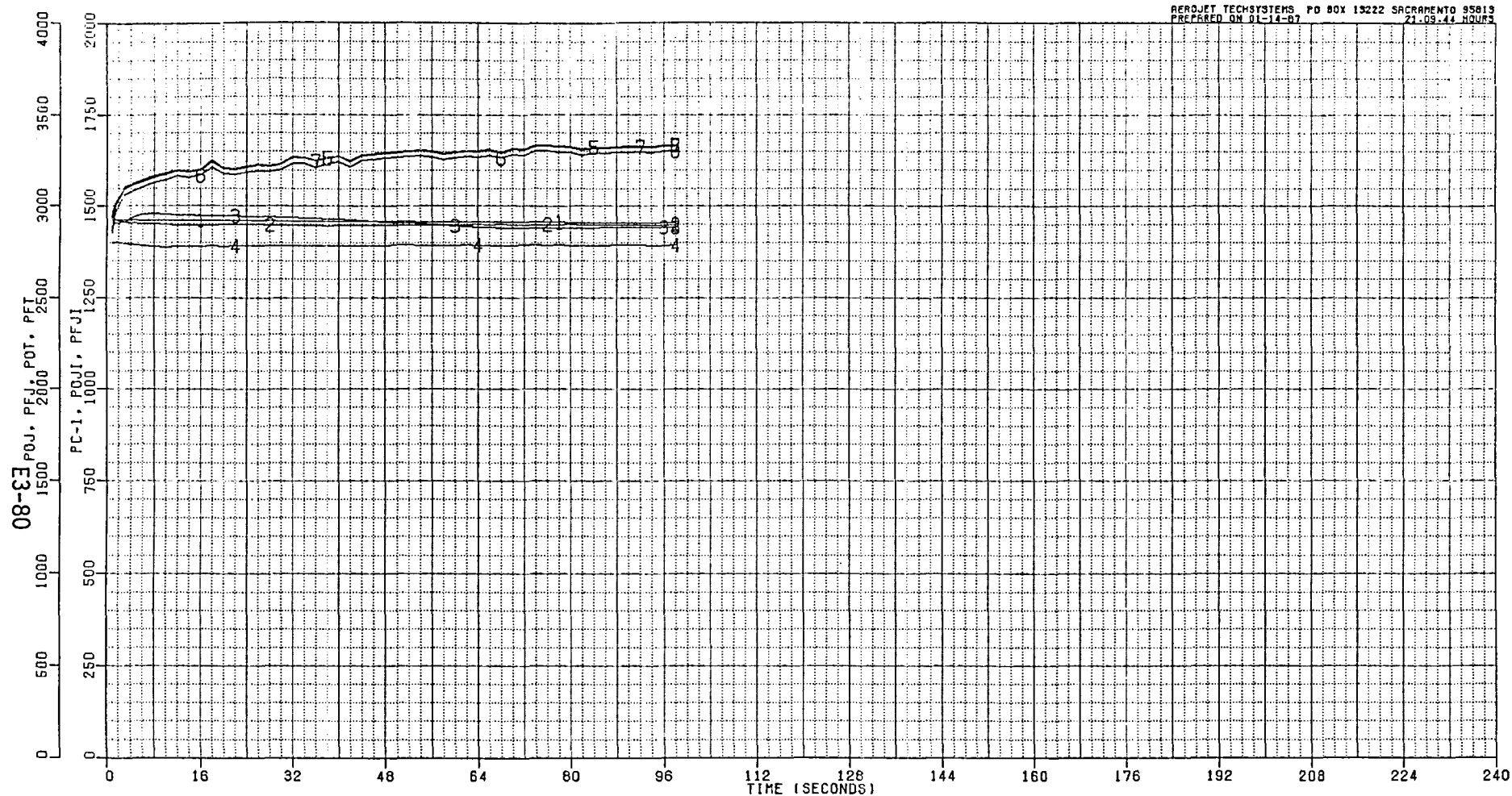


1 NA1 SO-IN.  
 2 NA2 SC-IN.  
 3 CDA

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-141  
 NOZZLE AREA CHANGE  
 TEST DATE 11-07-85 1446 HOURS AVERAGED DATA







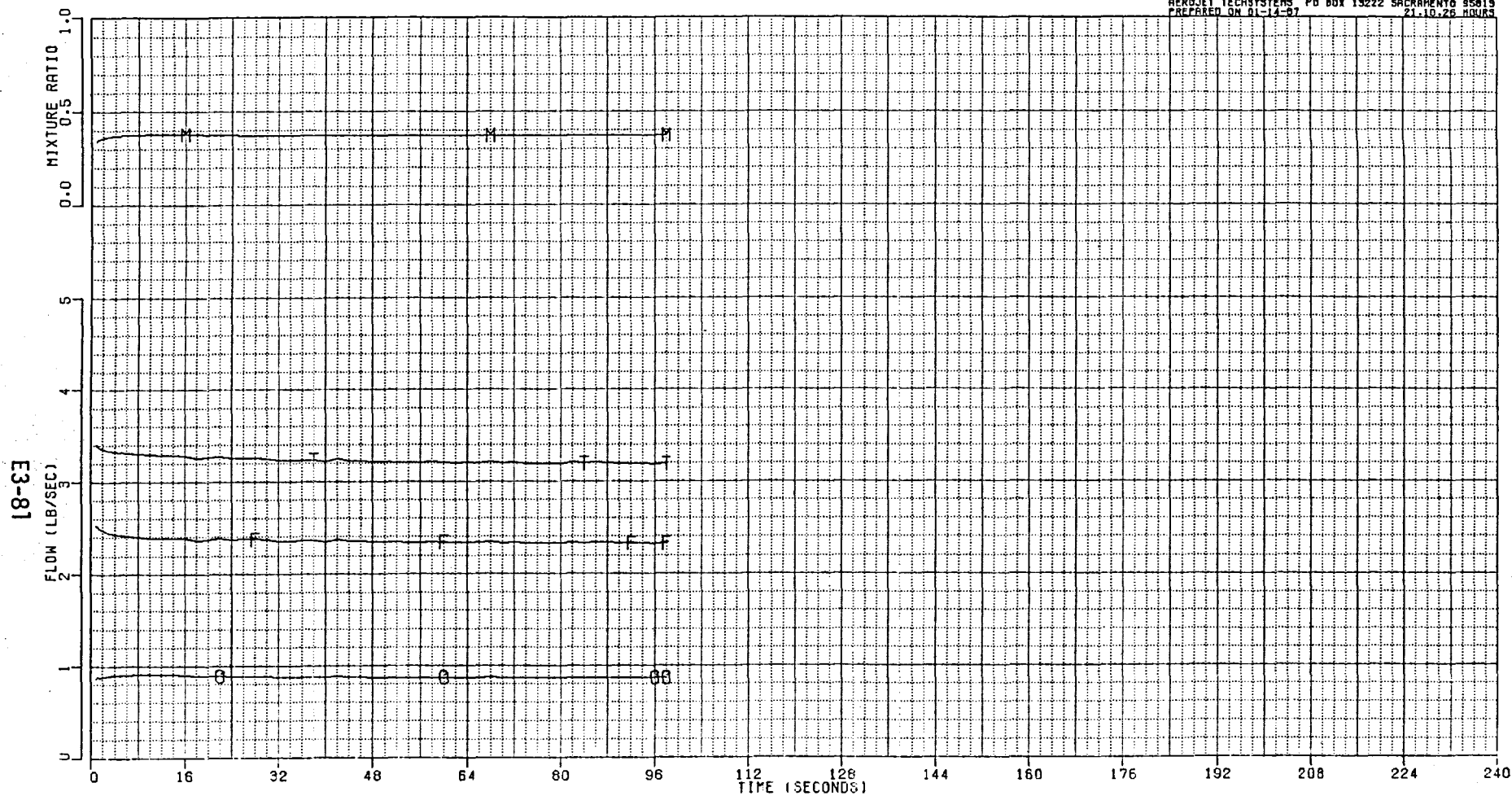
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-14-87 21.03.14 HOURS

1 POT PSIA  
 2 PFT PSIA  
 3 POJ PSIA  
 4 PFJ PSIA  
 5 PC-1 PSIA  
 6 POJI PSIA  
 7 PFJI PSIA

AEROJET  
 TechSystems  
 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-936-A6-144

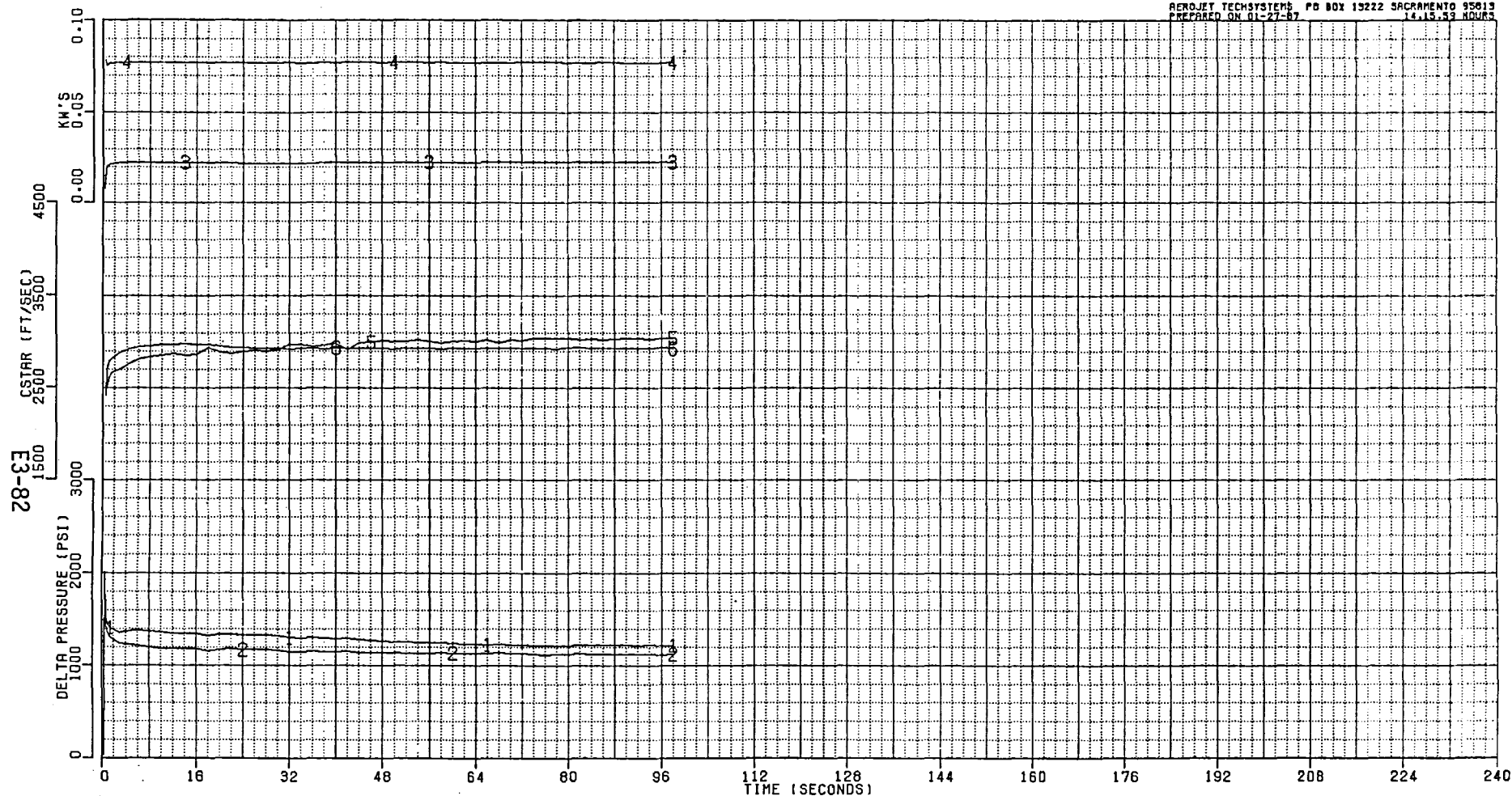
TEST DATE 11-18-85 1140 HOURS AVERAGED DATA



F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M Mixture Ratio

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-144

TEST DATE 11-10-85 11:40 HOURS AVERAGED DATA



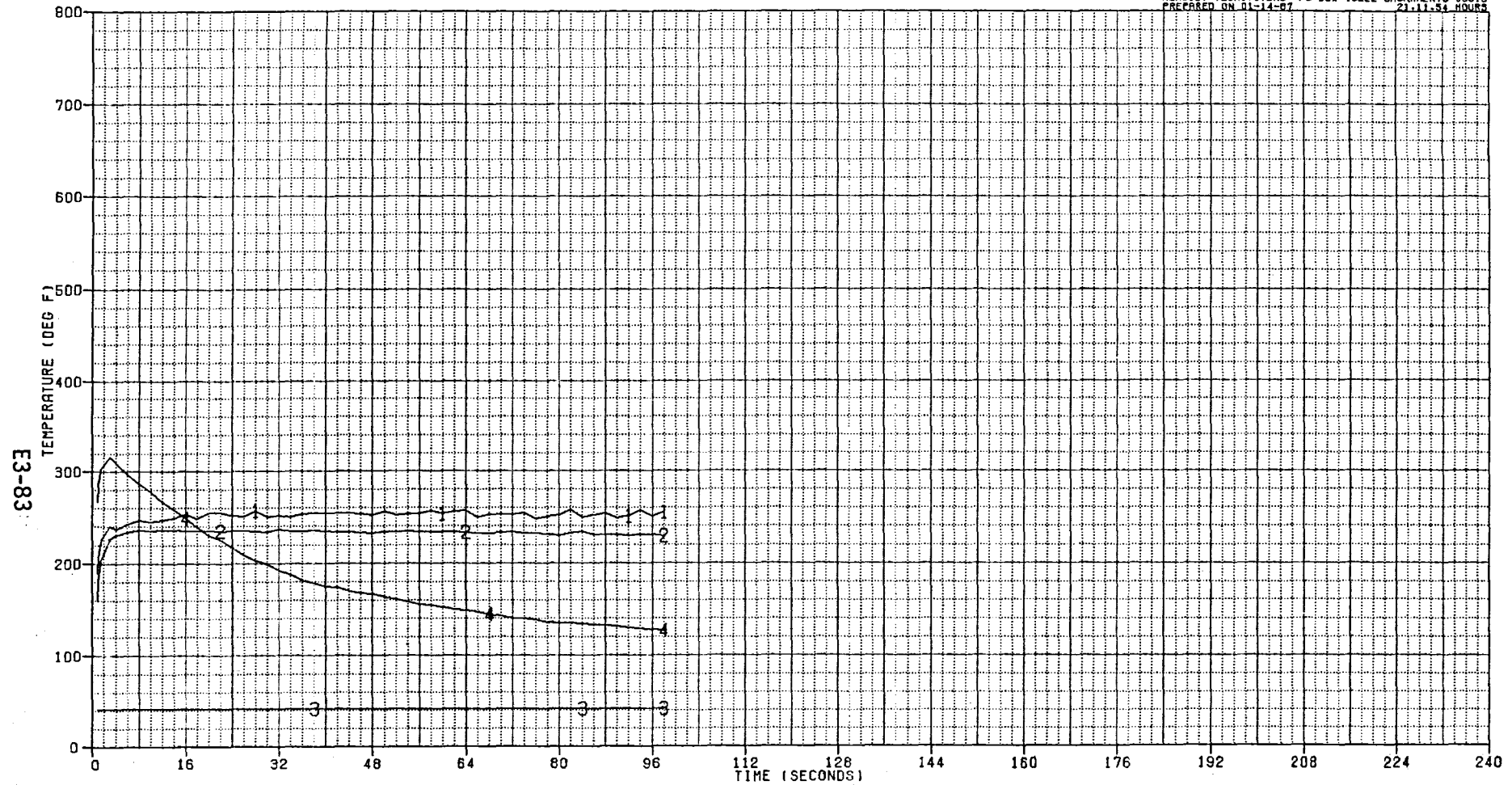
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95613  
PREPARED ON 01-27-87 14.15.53 HOURS

- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWQJ PSI
- 4 KWFJ PSI
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

AEROJET  
@TechSystems  
COMPANY

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-936-A6-144

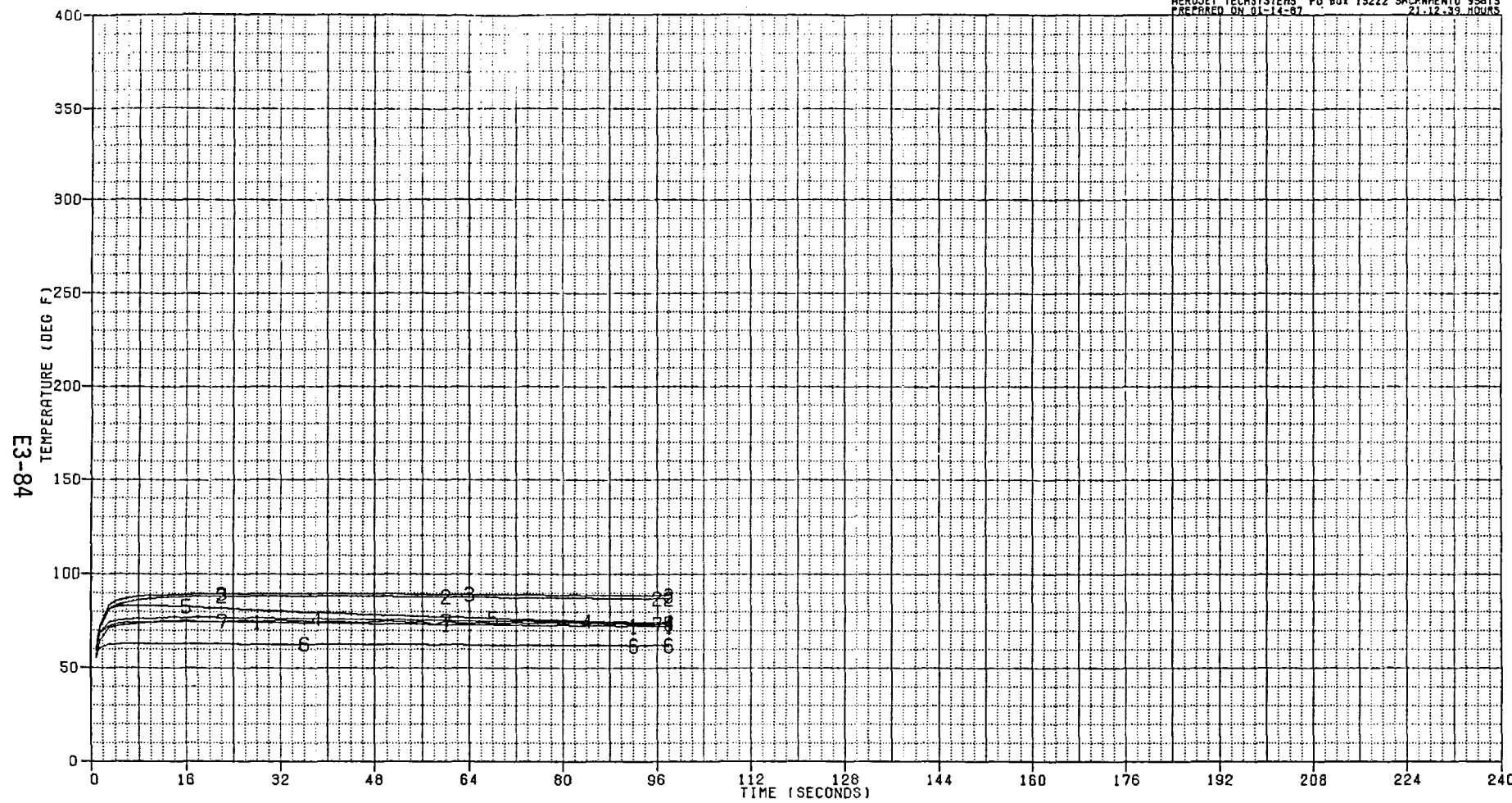
TEST DATE 11-18-85 1140 HOURS AVERAGED DATA



1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

AEROJET  
**TechSystems**  
 COMPANY

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-144  
 BARREL DATA  
 TEST DATE 11-18-85 1140 HOURS AVERAGED DATA



E3-84

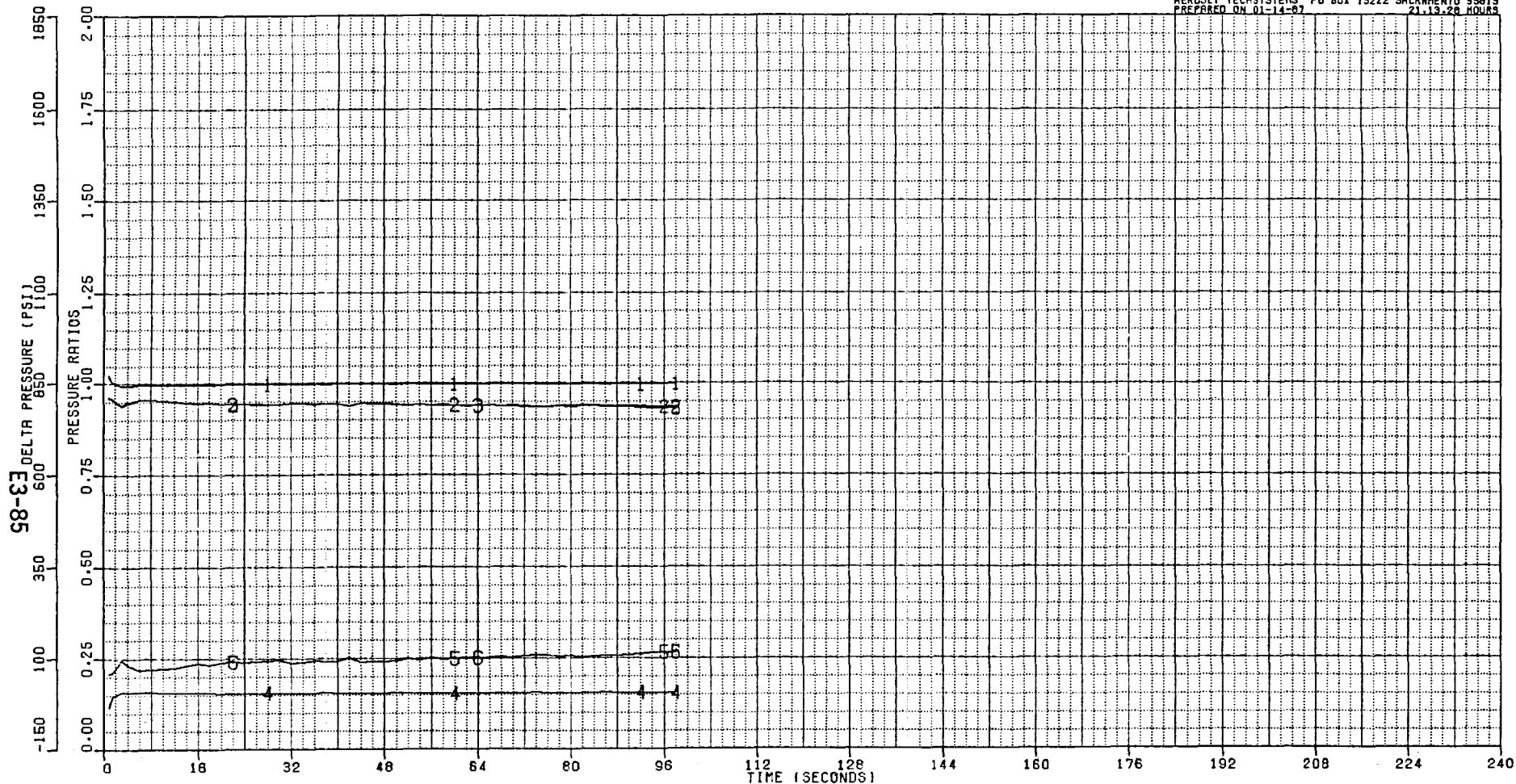
- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F



COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-144

TEST DATE 11-18-85 1140 HOURS AVERAGED DATA

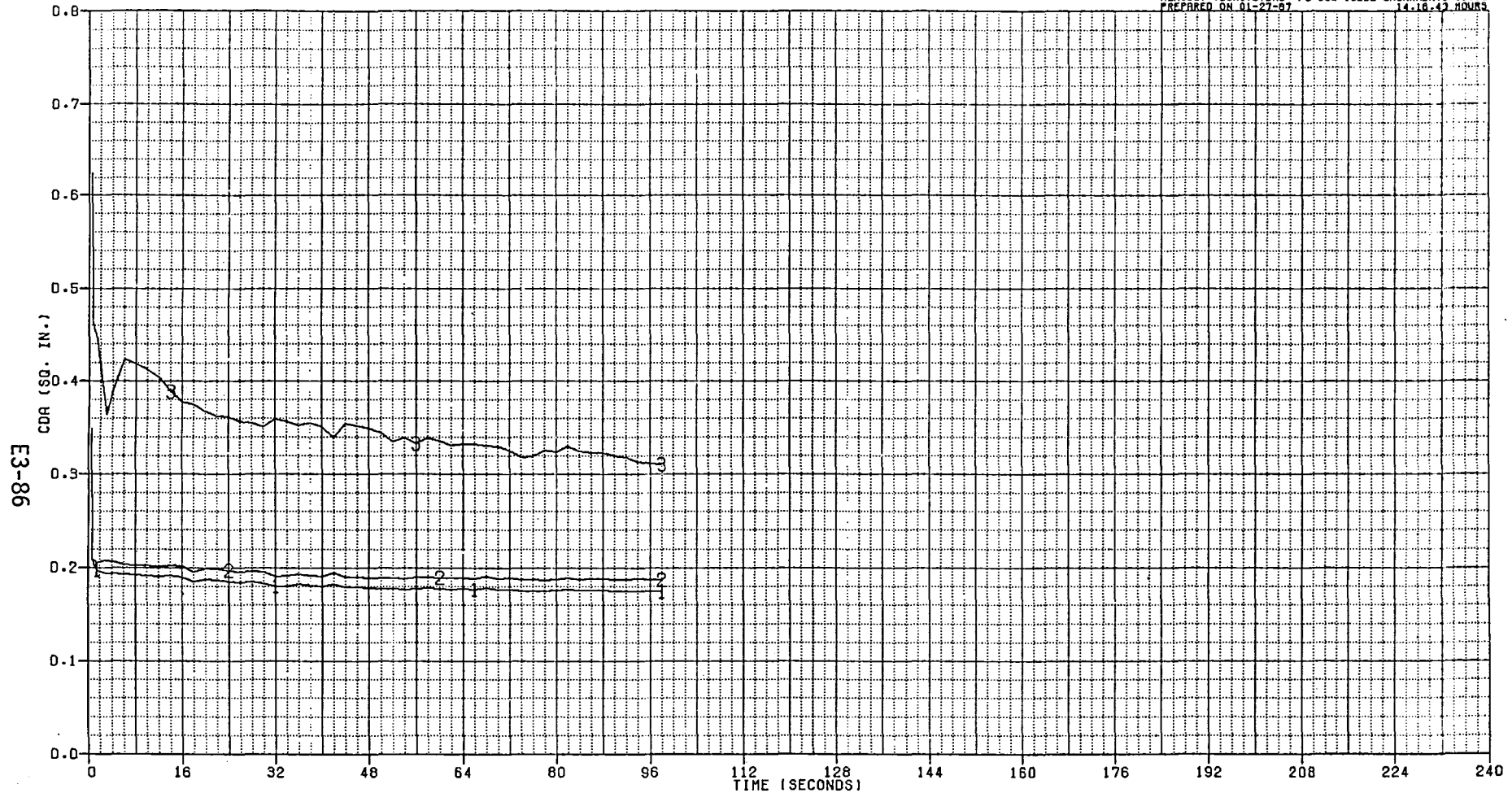
PREPARED ON 01-14-07 21.13.20 HOURS



- 1 PRTR  
2 PRTS  
3 PRTS COFR  
4 DPTR PSI  
5 DPTS-C PSI  
6 DPTS PSI

**AEROJET**  
**TechSystems**  
**COMPANY**

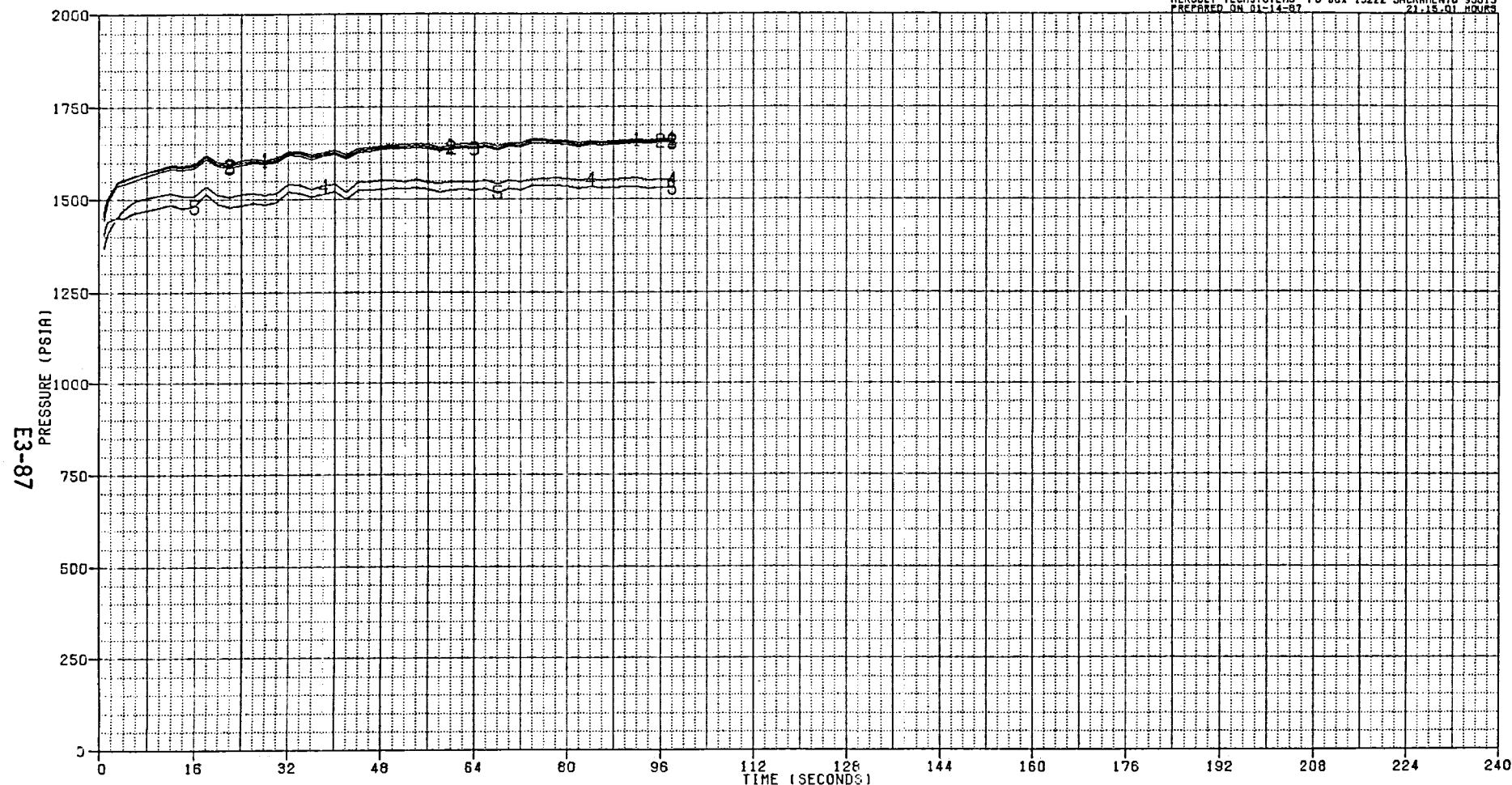
TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-144  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 11-18-85 1140 HOURS      AVERAGED DATA



1 NA1 SQ. IN.  
 2 NA2 SQ. IN.  
 3 CDA

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-144  
 NOZZLE AREA CHANGE  
 TEST DATE 11-18-85 1140 HOURS AVERAGED DATA



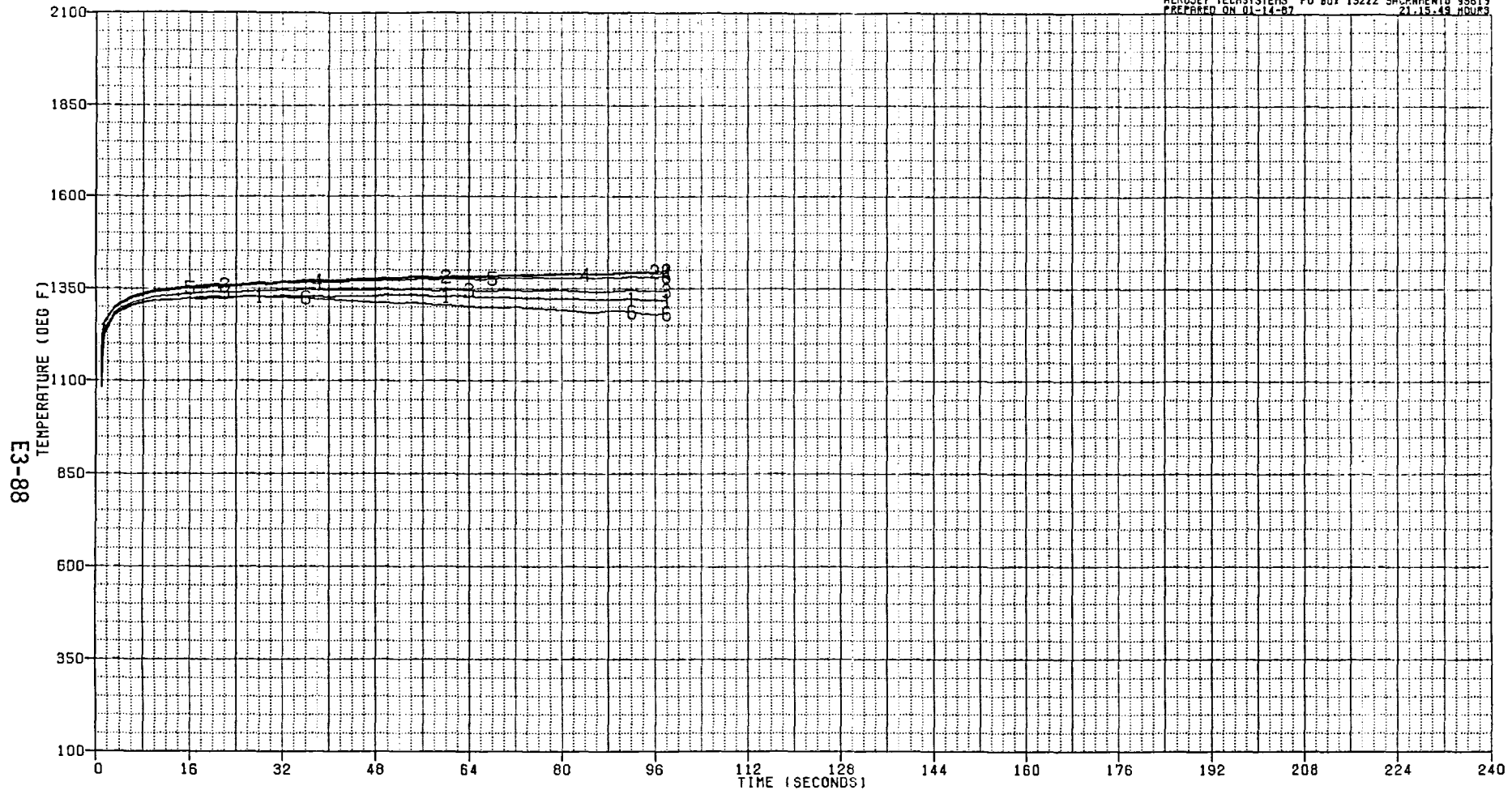


- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-144  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-18-85 1140 HOURS AVERAGED DATA

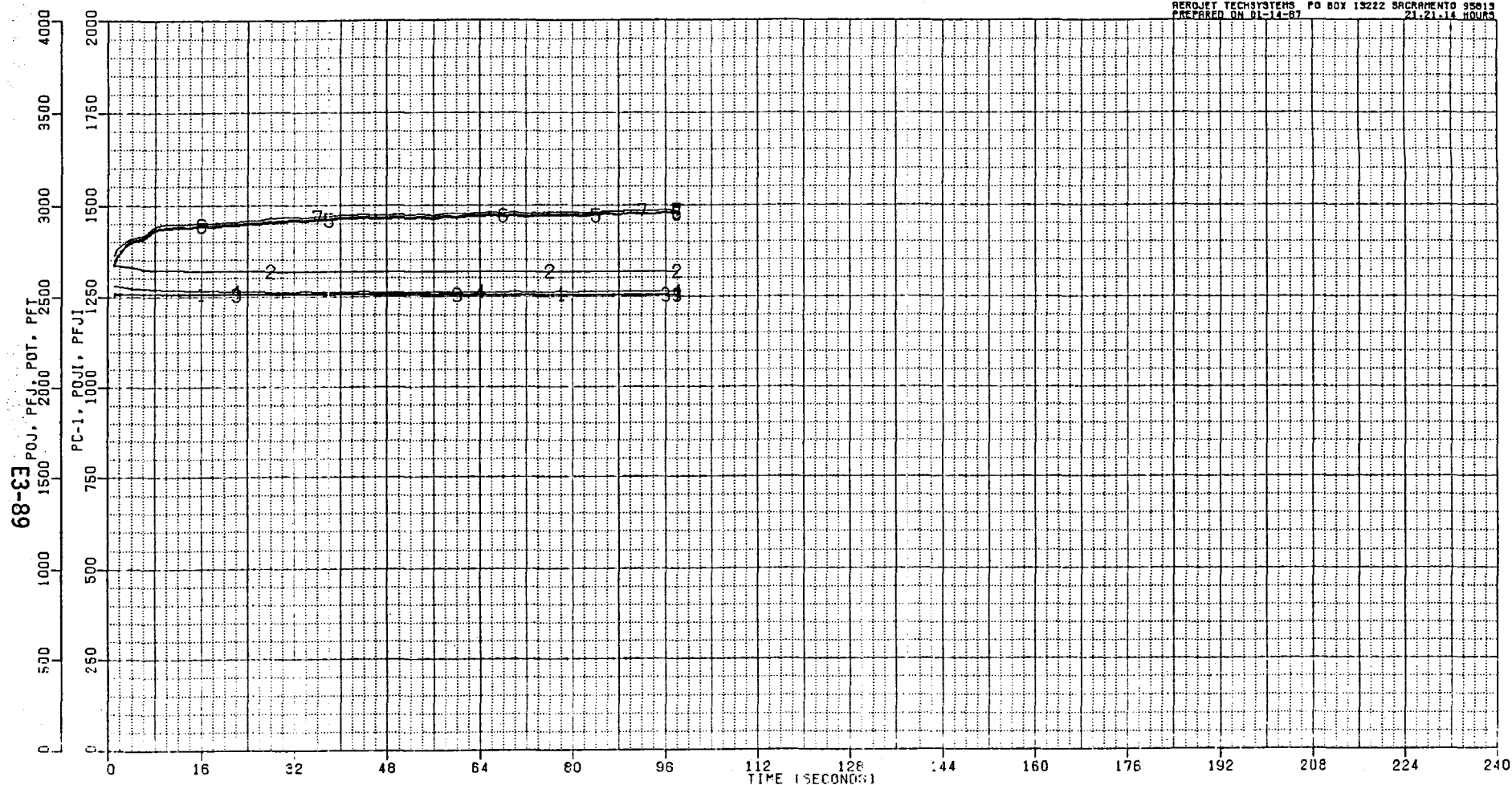




1 TCR-1 DEG F  
2 TCR-2 DEG F  
3 TCR-3 DEG F  
4 TCR-4 DEG F  
5 TCR-5 DEG F  
6 TCR-6 DEG F

AEROJET  
@TechSystems  
COMPANY

GAS TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-144  
PRESSURE MEASUREMENTS  
TEST DATE 11-18-85 1140 HOURS AVERAGED DATA



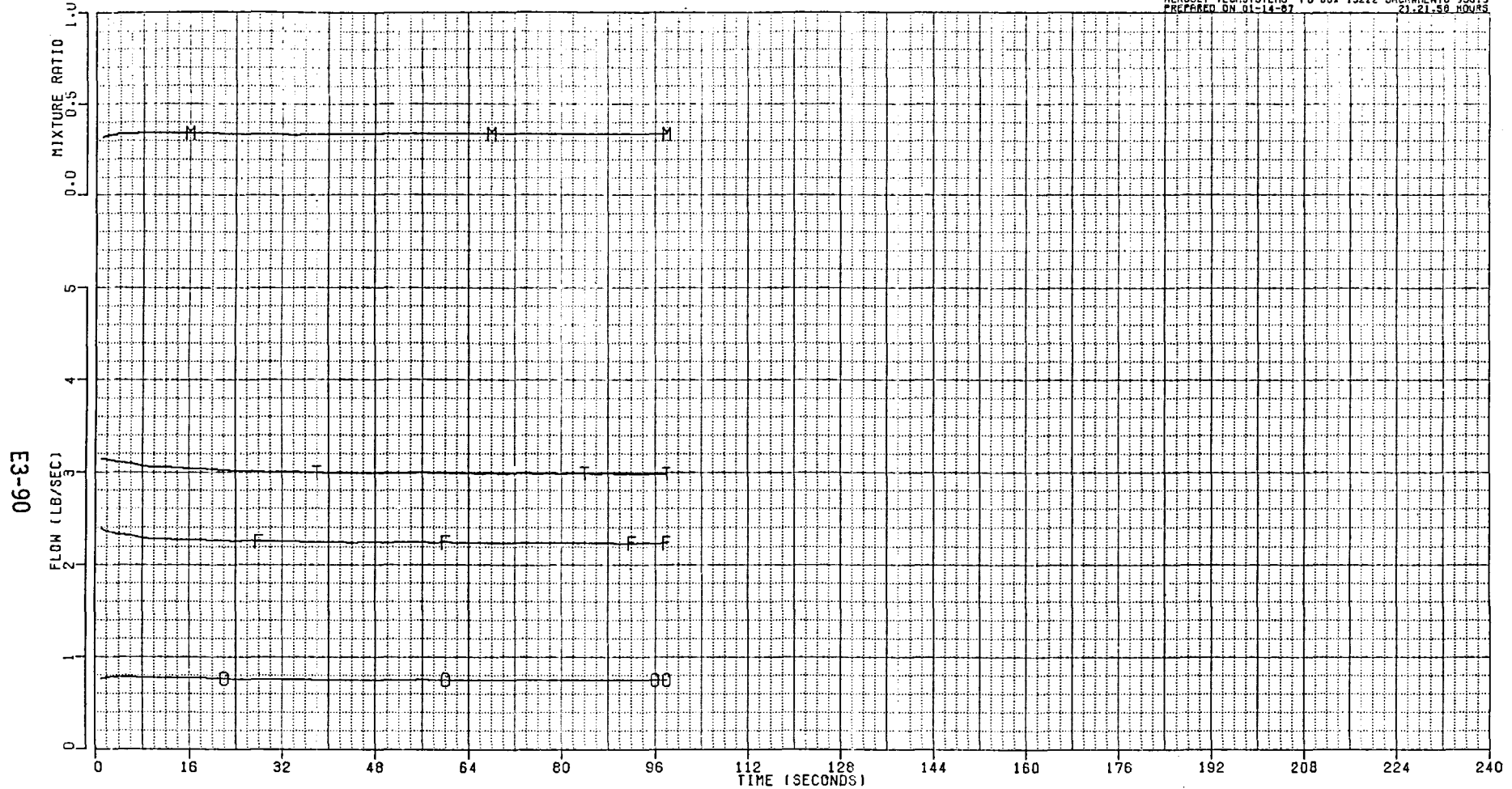
|        |      |
|--------|------|
| 1 POT  | PSIA |
| 2 PFT  | PSIA |
| 3 POJ  | PSIA |
| 4 PFJ  | PSIA |
| 5 PC-1 | PSIA |
| 6 POJI | PSIA |
| 7 PFJI | PSIA |

— AEROJET —  
**TechSystems**  
 — COMPANY —

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-936-A6-149

TEST DATE 11-18-85 1542 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS, P.O. BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-14-87 21:21:14 HOURS

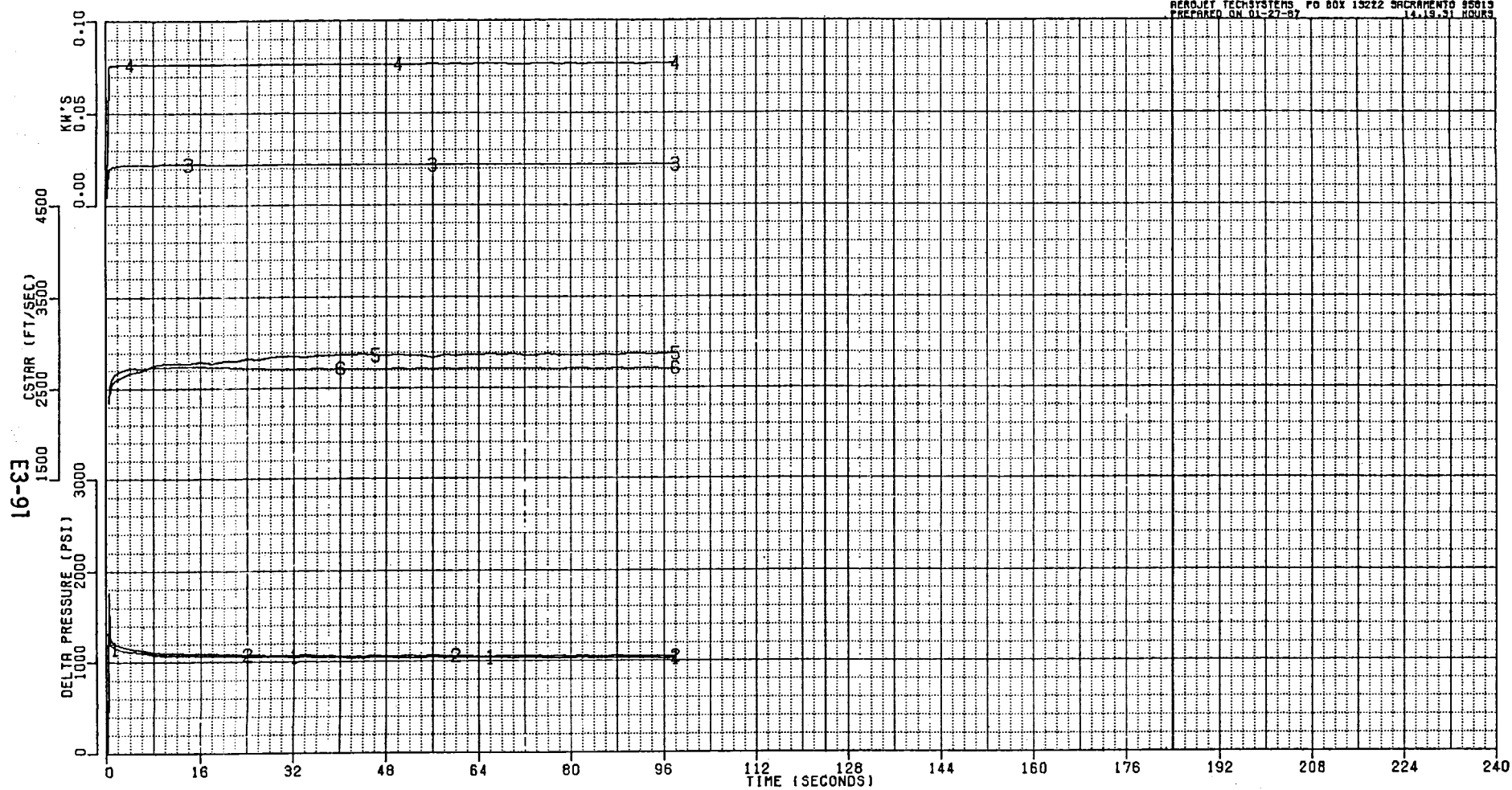


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-149

TEST DATE 11-18-60 1542 HOURS AVERAGED DATA





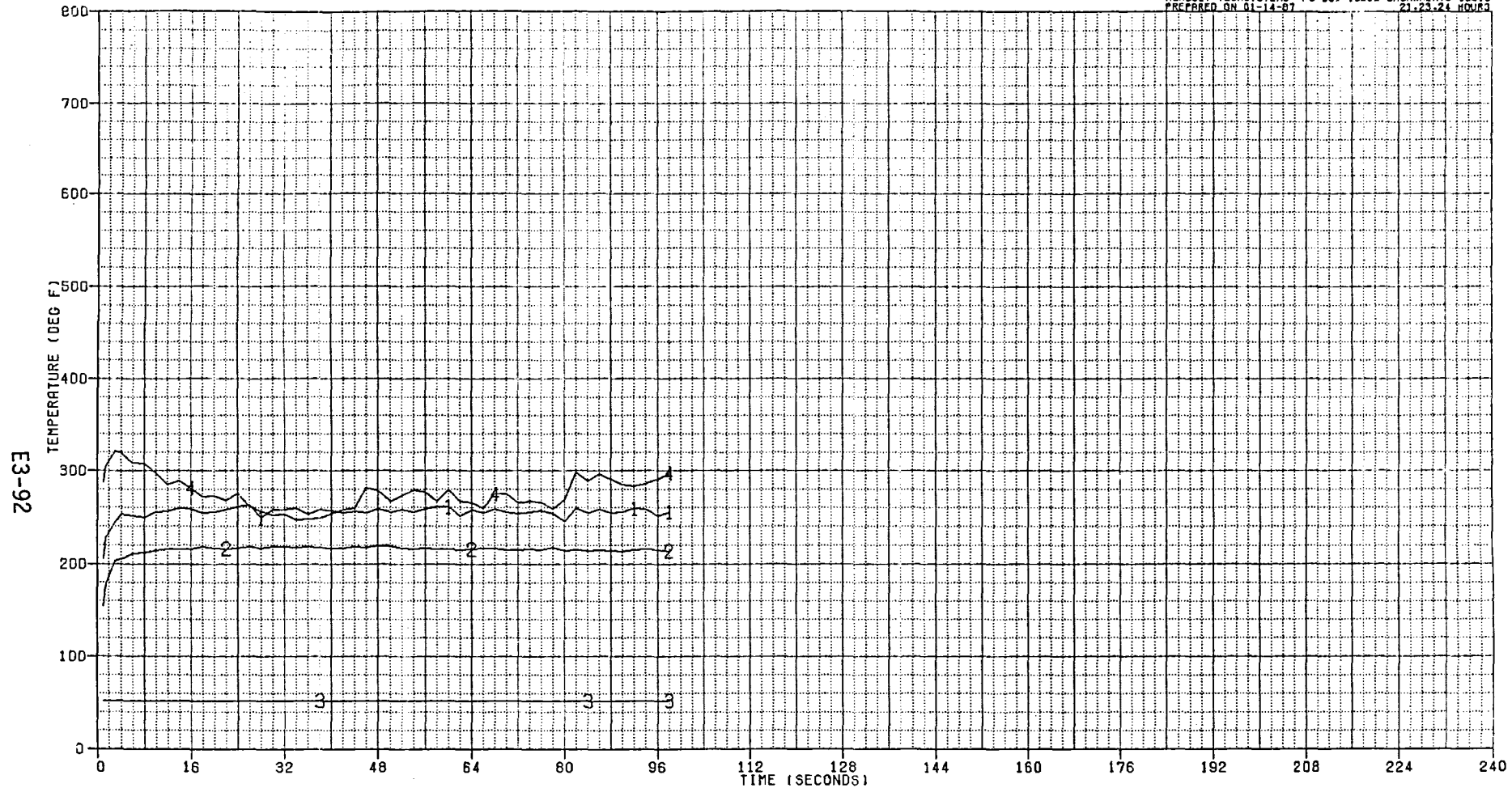
- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ
- 4 KWFJ
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

AEROJET  
**TechSystems**  
 COMPANY

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-149

TEST DATE 11-18-85 1542 HOURS AVERAGED DATA

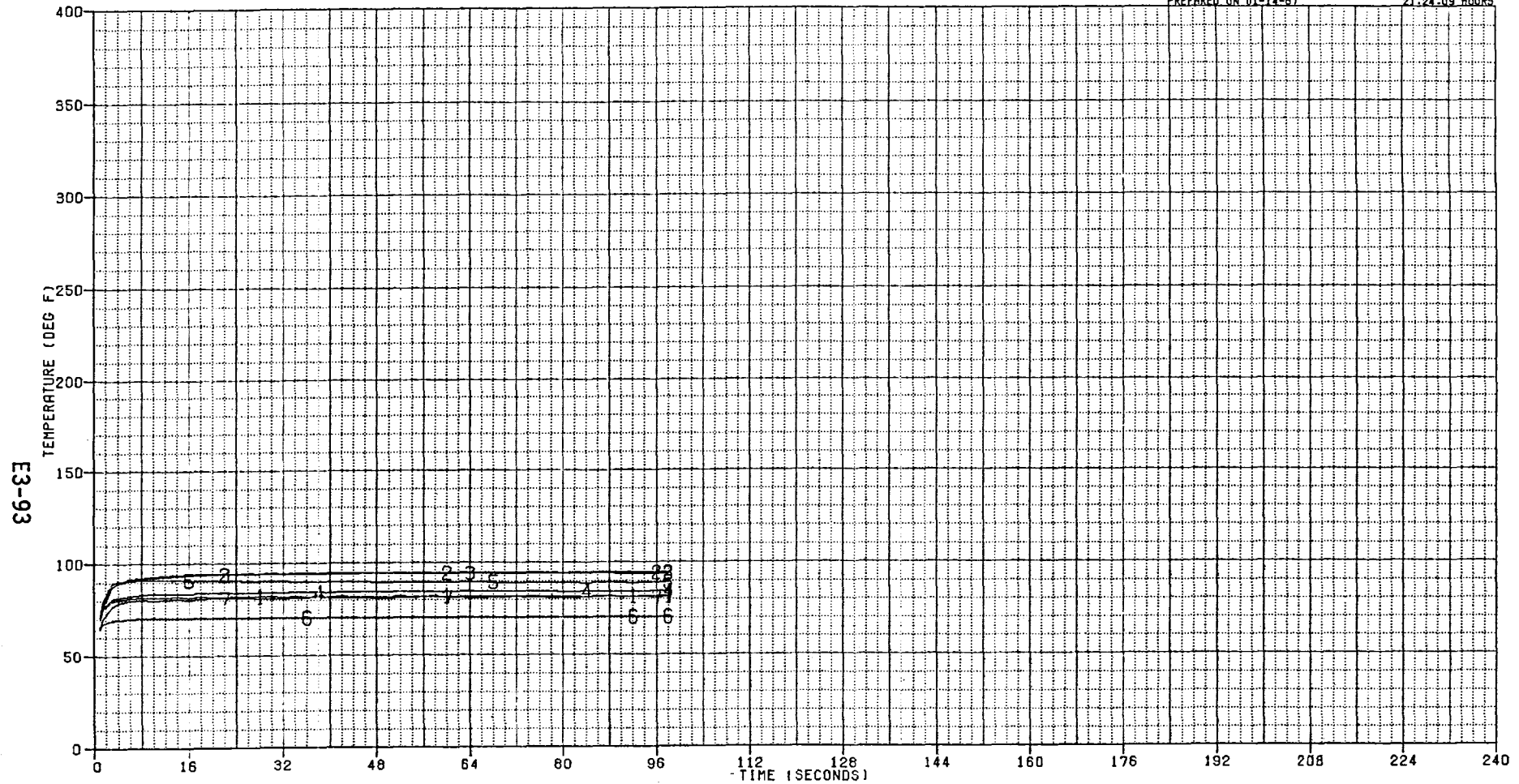
AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-27-87 14:19:31 HOURS



1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

AEROJET  
**TechSystems**  
 COMPANY

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-149  
 BARREL DATA  
 TEST DATE 11-18-85 1542 HOURS AVERAGED DATA

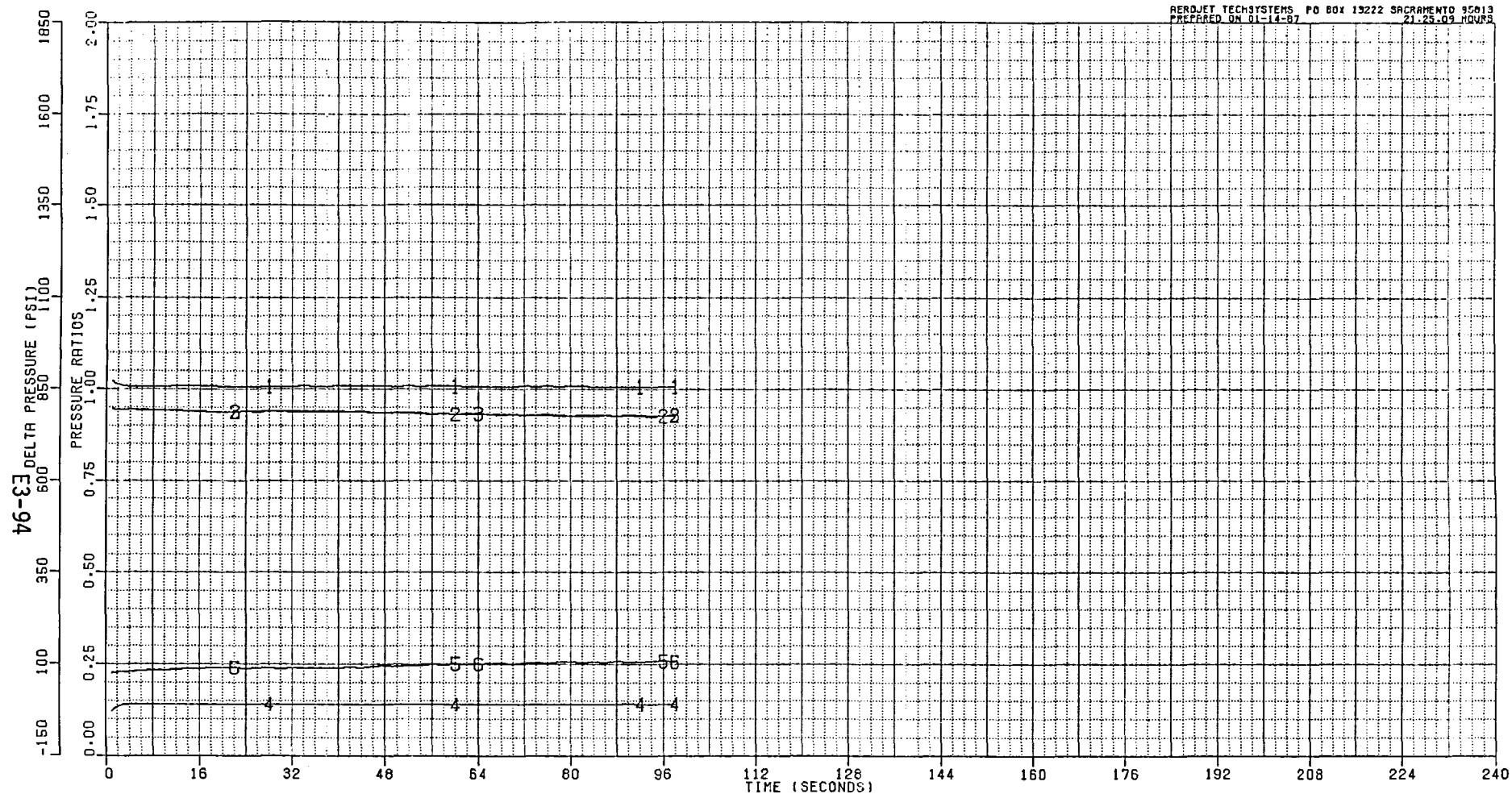


1 TWC-2 DEG F  
 2 TWC-26 DEG F  
 3 TWC-27 DEG F  
 4 TWC-31 DEG F  
 5 TWC-32 DEG F  
 6 TWC-33 DEG F  
 7 TC-7C DEG F

AEROJET  
**TechSystems**  
 COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-149

TEST DATE 11-18-85 1542 HOURS AVERAGED DATA



- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 OPTR
- 5 OPTS-C
- 6 OPTS

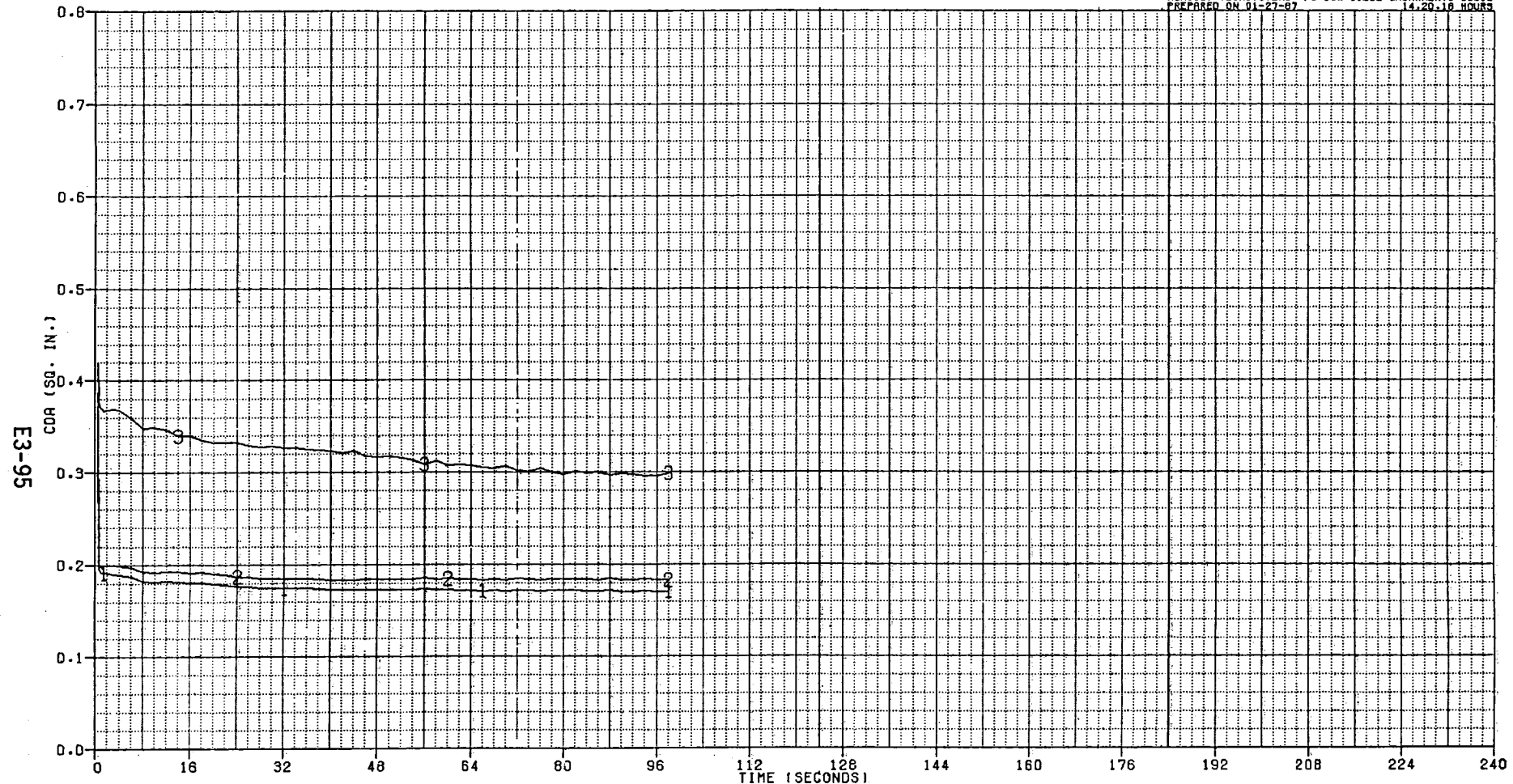
PSI  
PSI  
PSI

AEROJET  
**@TechSystems**  
COMPANY

**TURBINE BUILD-UP DATA VS TIME**  
**TEST NO. 2427-936-A6-149**  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 11-18-85 1542 HOURS AVERAGED DATA



AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-27-87 14:20:18 HOURS

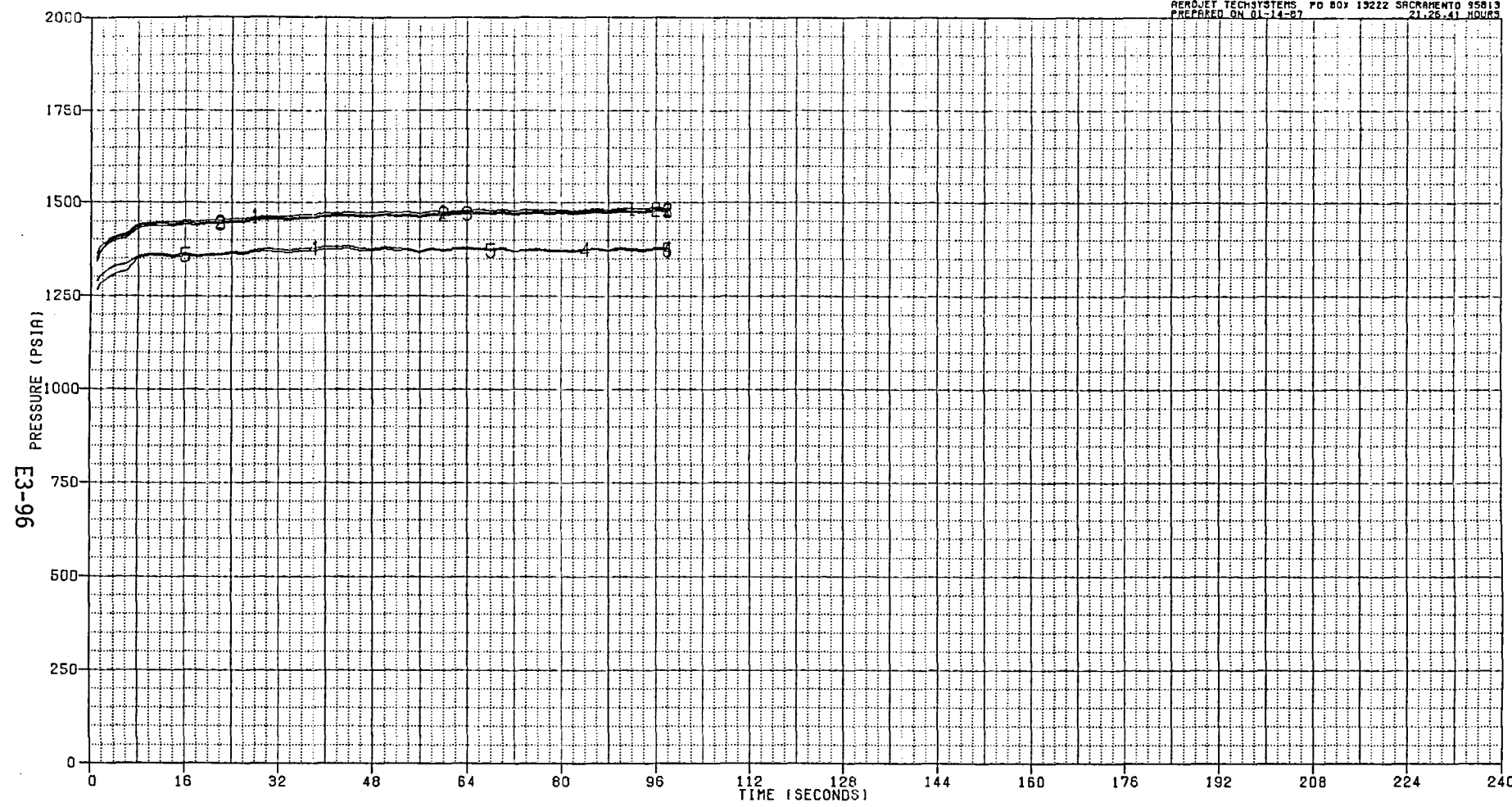


1 NR1 SQ. IN.  
 2 NR2 SQ. IN.  
 3 COA

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**@TechSystems**  
 COMPANY

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-149  
 NOZZLE AREA CHANGE  
 TEST DATE 11-18-85 1542 HOURS AVERAGED DATA

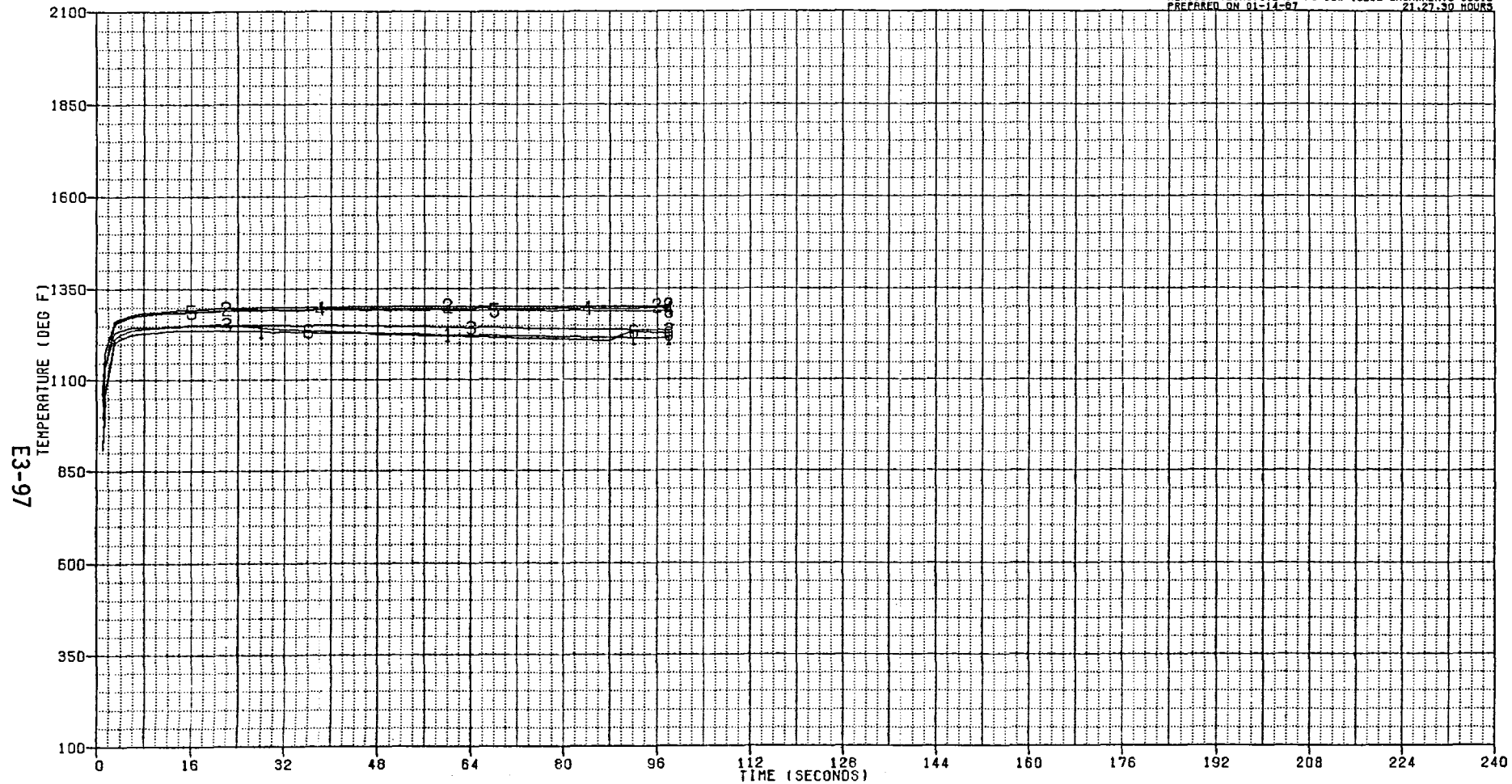




- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



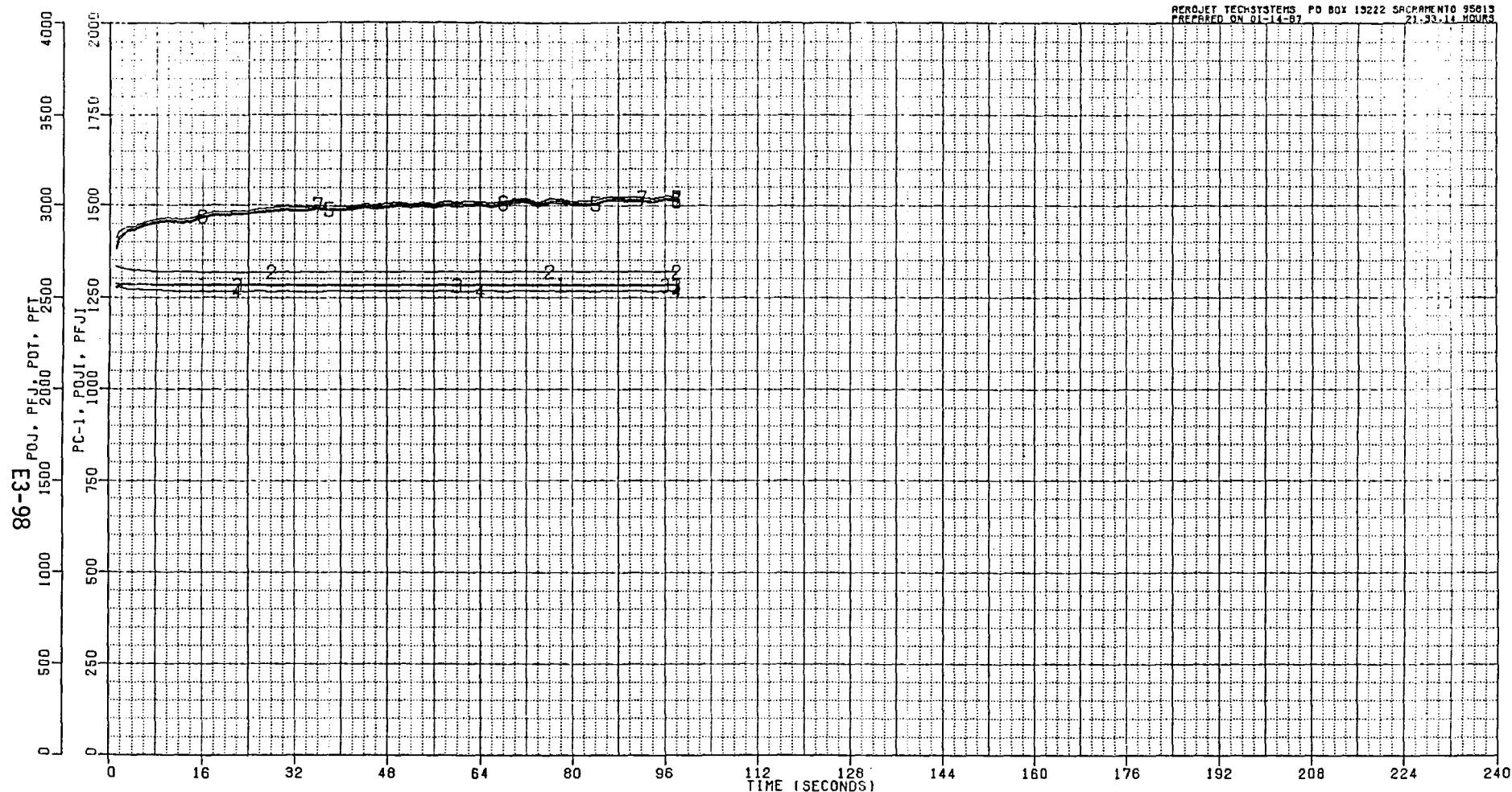
TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-149  
PRESSURE MEASUREMENTS  
TEST DATE 11-18-85 1542 HOURS AVERAGED DATA



- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-149  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-18-85 1542 HOURS AVERAGED DATA



1 POT  
2 PFT  
3 POJ  
4 PFJ  
5 PC-1  
6 POJI  
7 PFJI

PSIA  
PSIA  
PSIA  
PSIA  
PSIA  
PSIA  
PSIA

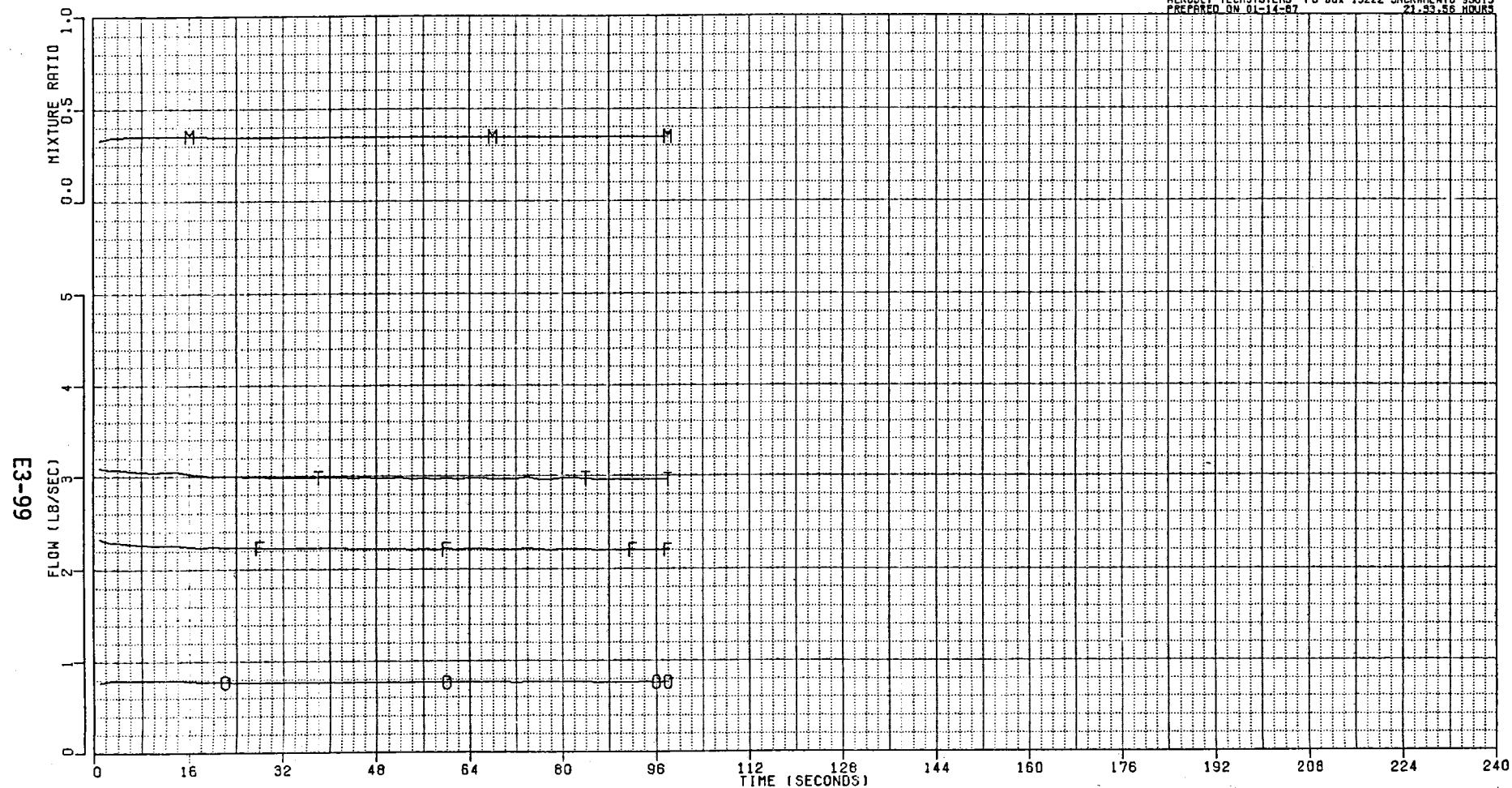
AEROJET  
TechSystems  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-936-A6-150

TEST DATE 11-18-85 1558 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-14-87 21:33:14 HOURS

AEROJET TECHSYSTEMS, P.O. BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-14-87 21:33:56 HOURS

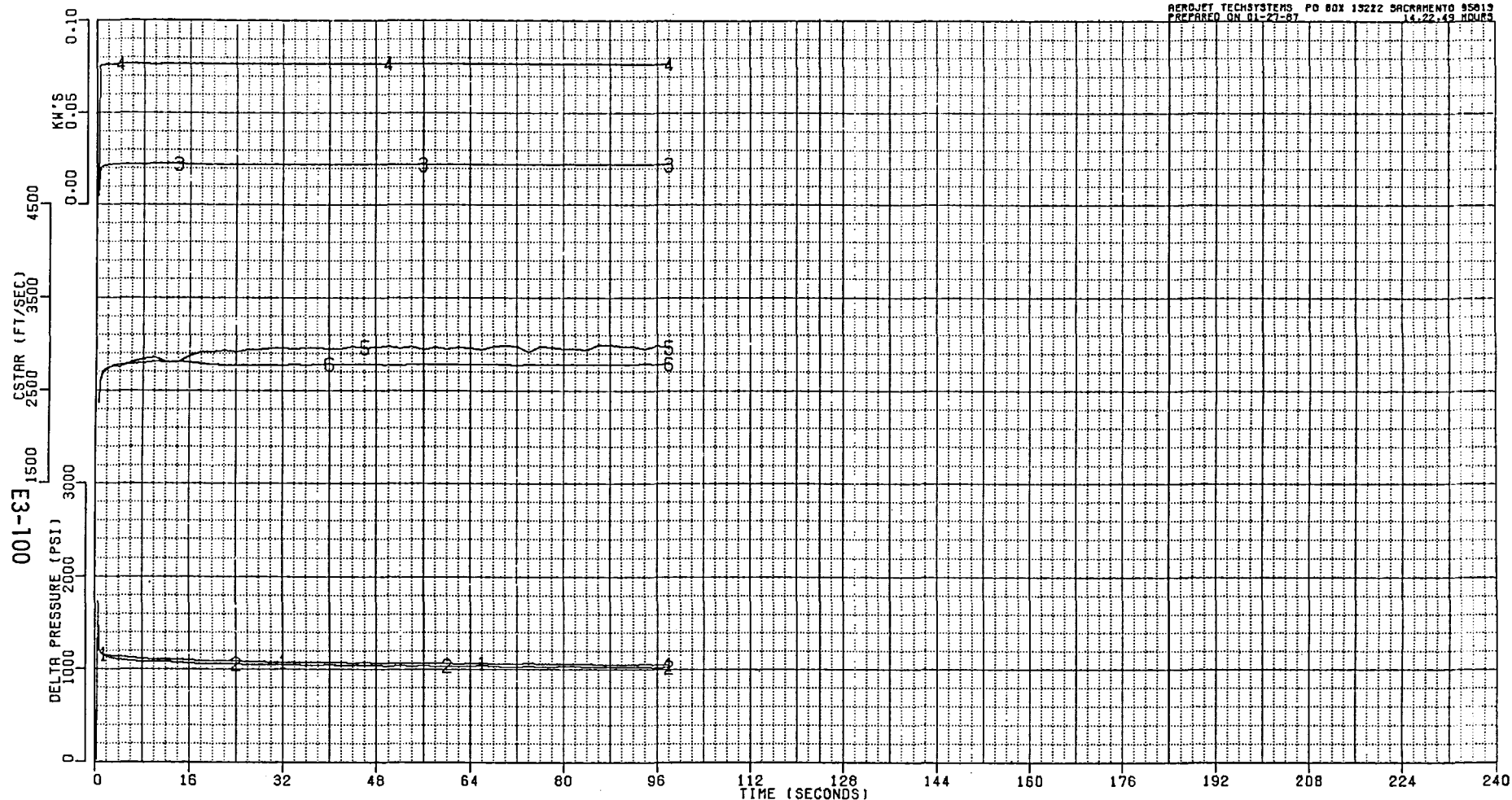


F WF LB/SEC  
 O WOX LB/SEC  
 T WTOT LB/SEC  
 M MR LB/SEC

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-150

TEST DATE 11-18-85 1558 HOURS AVERAGED DATA

AEROJET  
**@TechSystems**  
 COMPANY

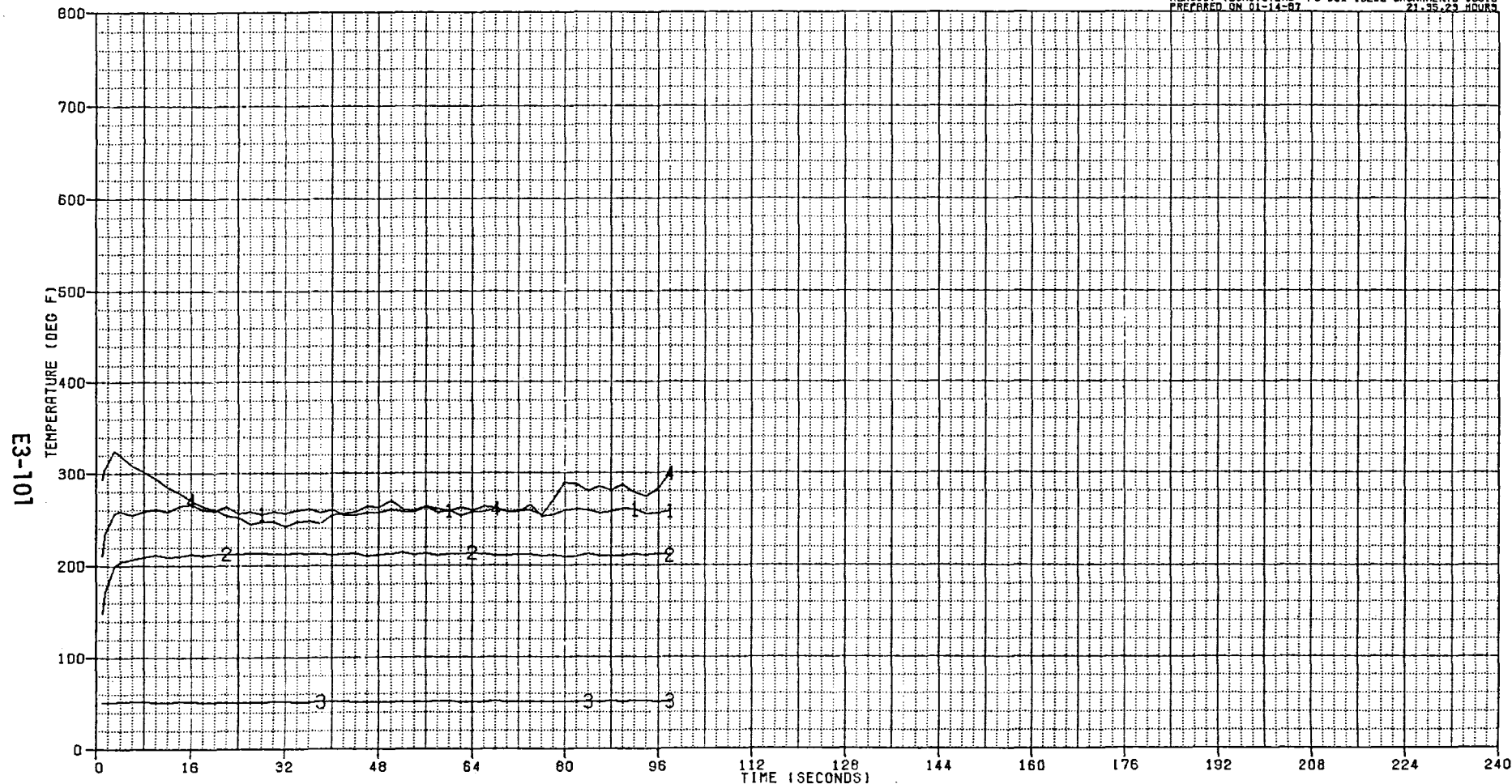


1 DPOJ PSI  
 2 DPFJ PSI  
 3 KWOJ  
 4 KWFJ  
 5 CSTRPB FT/SEC  
 6 CSTAR FT/SEC

AEROJET  
**TechSystems**  
 COMPANY

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-150

TEST DATE 11-18-85 1558 HOURS AVERAGED DATA

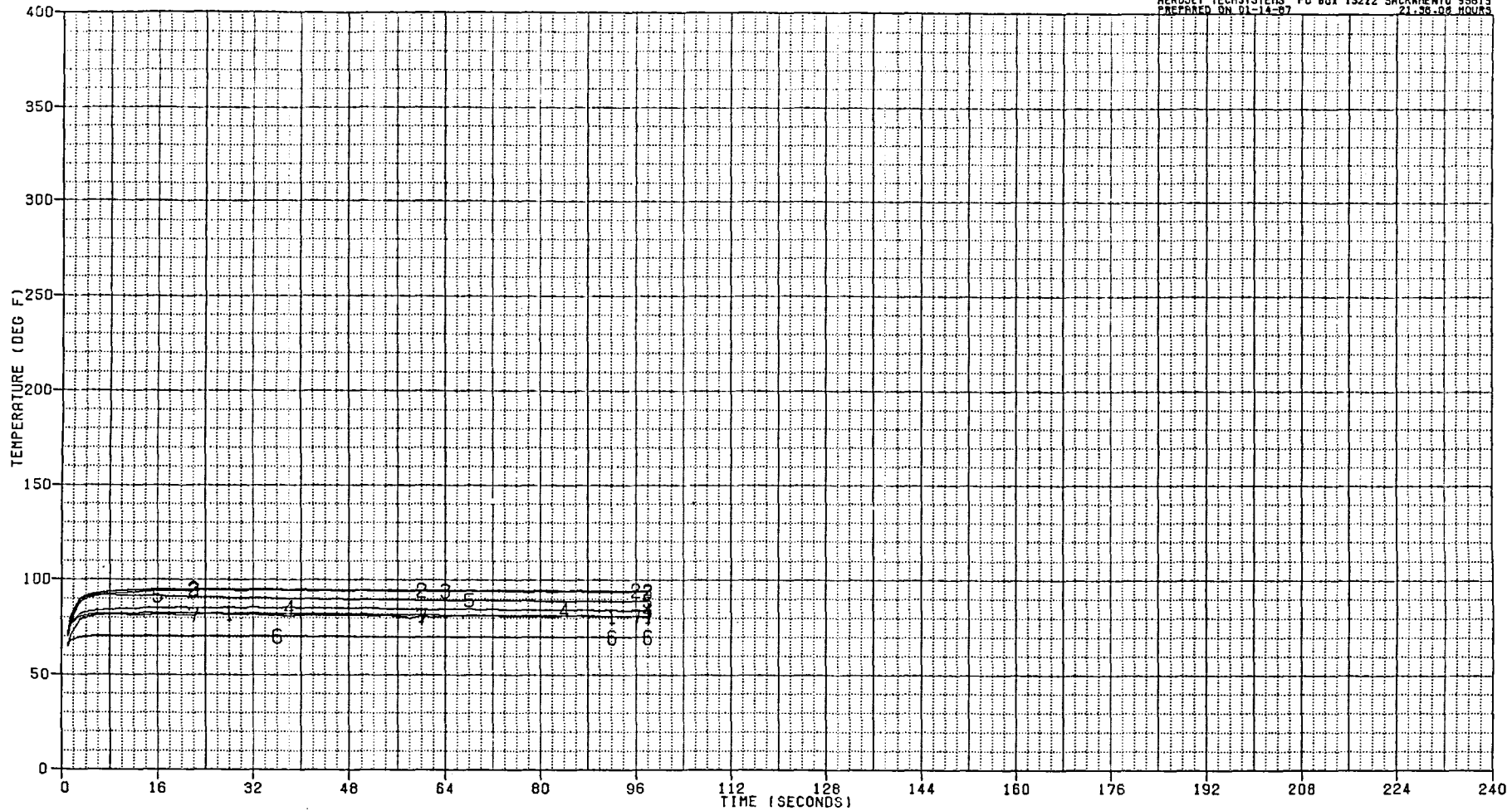


1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

AEROJET  
**TechSystems**  
 COMPANY

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-150  
 BARREL DATA  
 TEST DATE 11-18-85 1558 HOURS AVERAGED DATA

E3-102



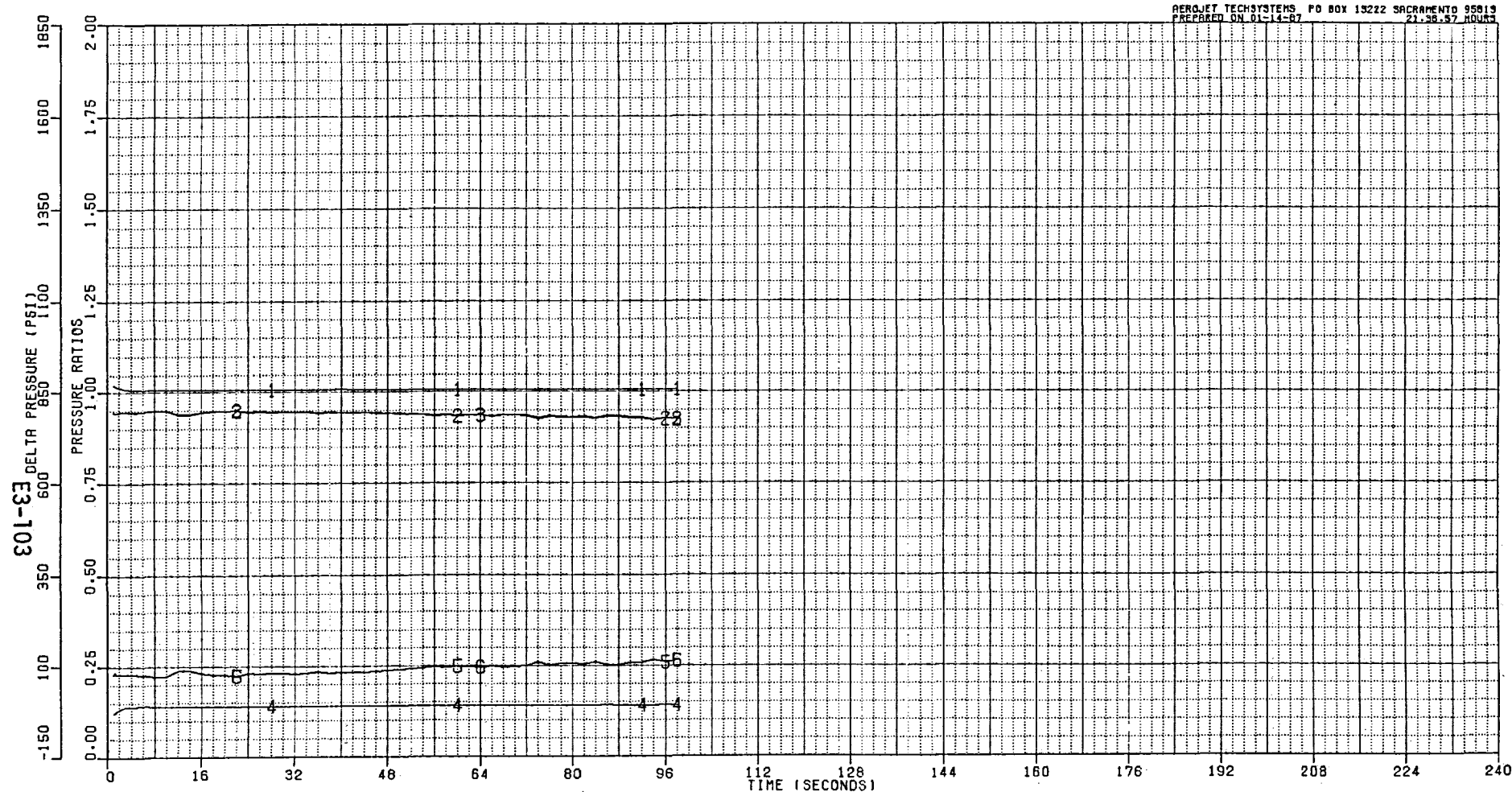
- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F



# COOLANT OUTLET TEMPERATURES VS TIME TEST NO. 2427-936-A6-150

TEST DATE 11-18-85 1558 HOURS AVERAGED DATA





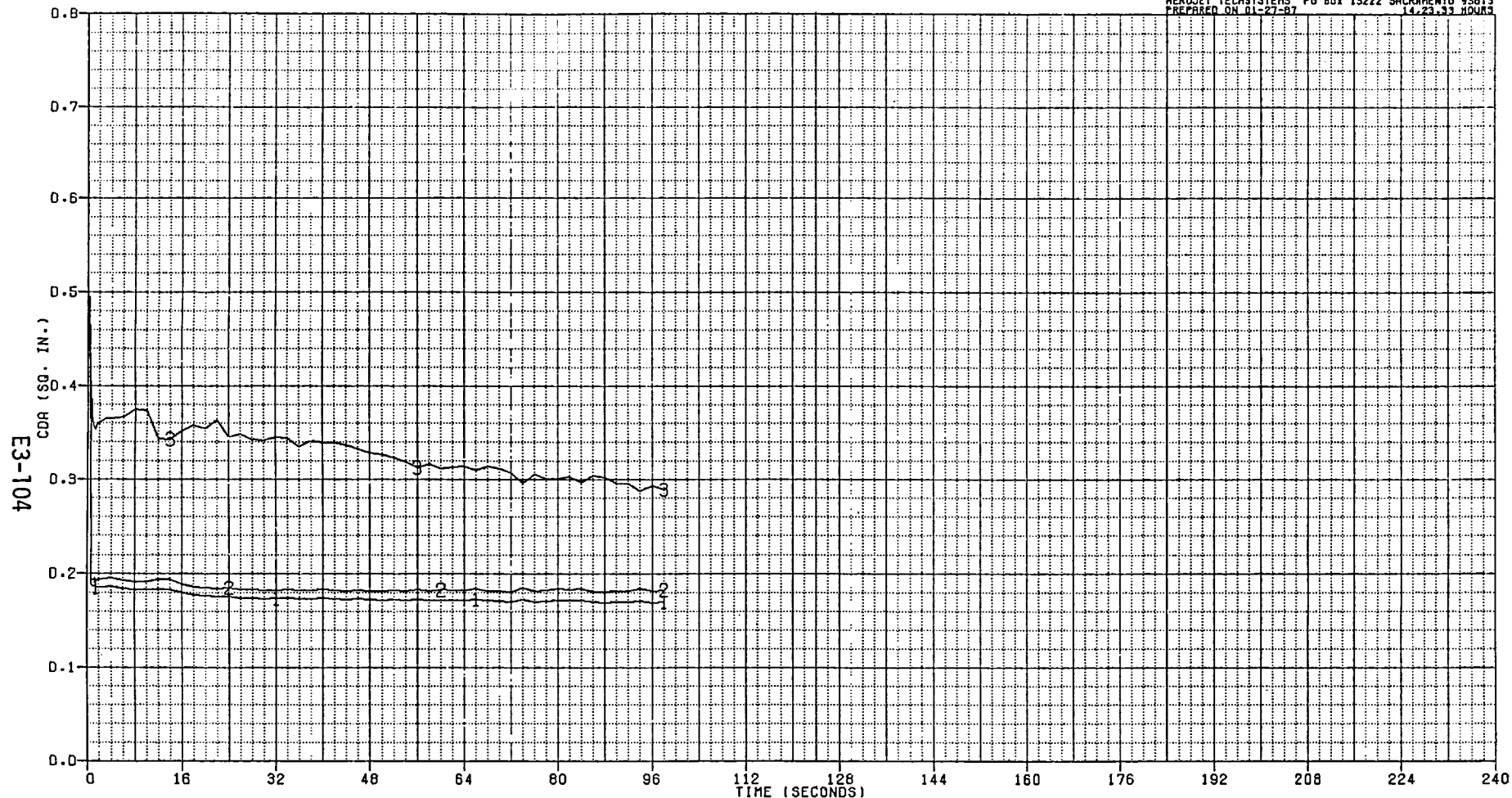
- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

AEROJET  
**@TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-150  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 11-18-85 1558 HOURS AVERAGED DATA

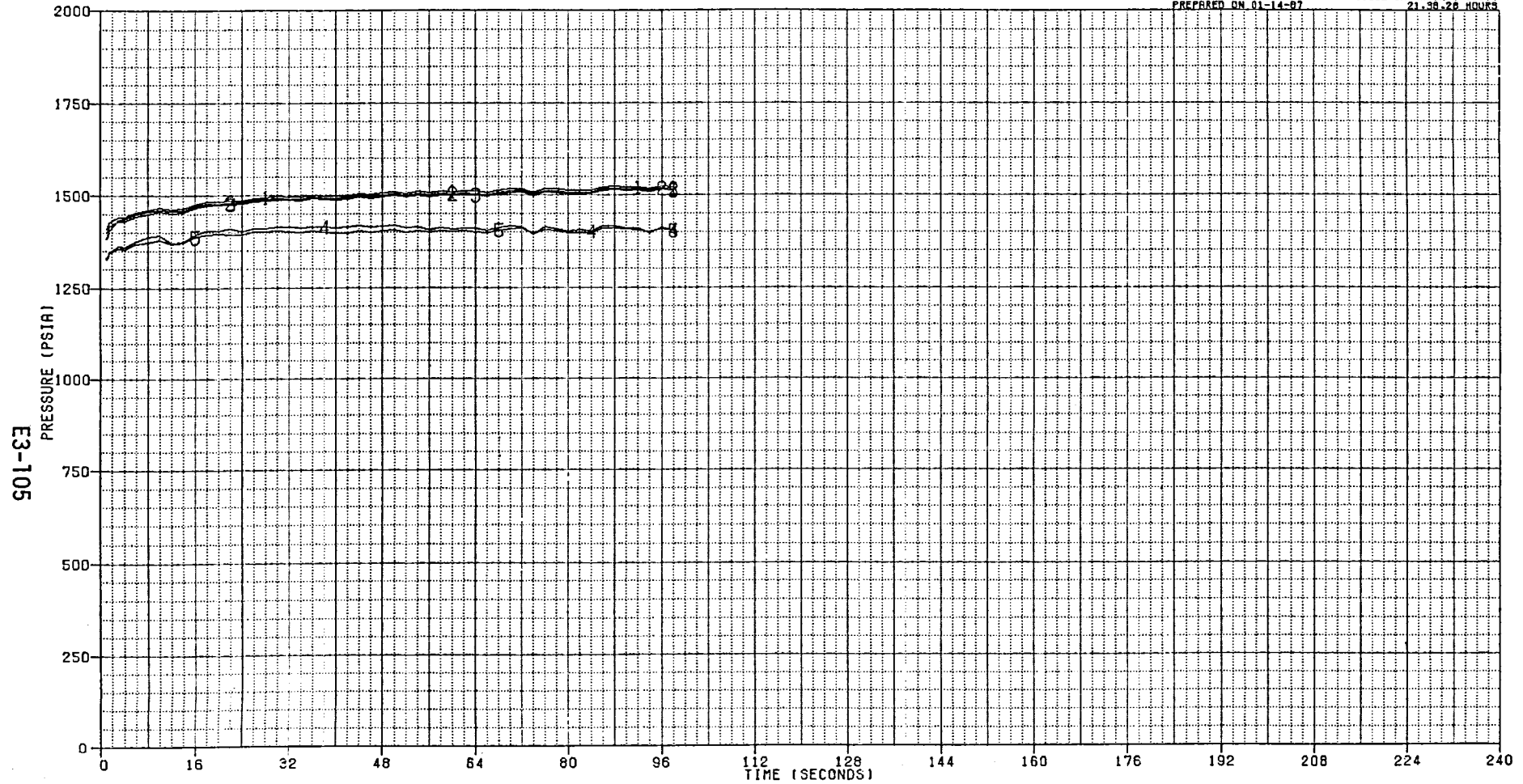




1 NR1 SQ.IN.  
2 NR2 SQ.IN.  
3 COR

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-936-A6-150  
NOZZLE AREA CHANGE  
TEST DATE 11-18-85 1558 HOURS AVERAGED DATA

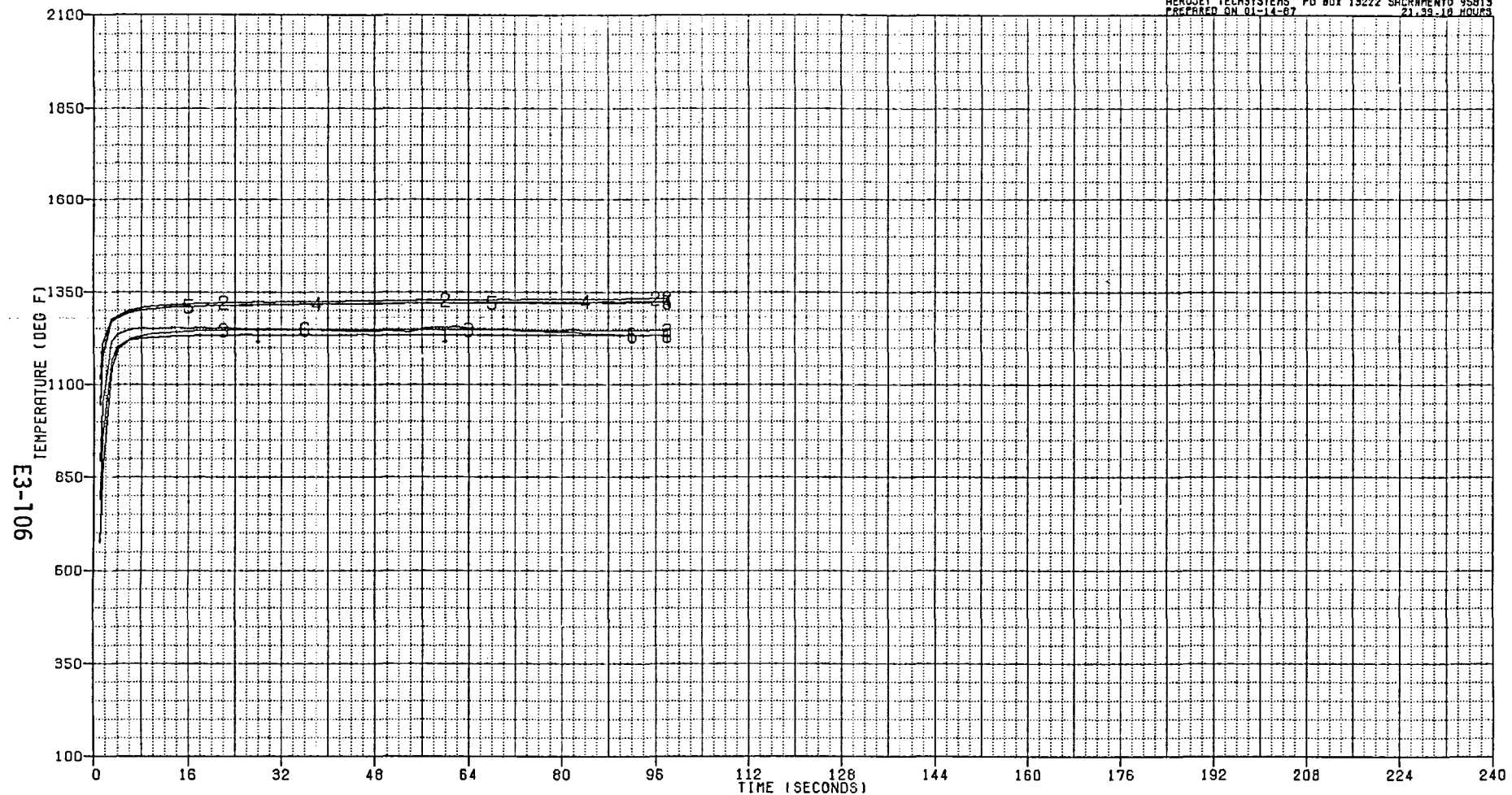
AEROJET  
@TechSystems  
COMPANY



- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA

AEROJET  
**@TechSystems**  
 COMPANY

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-150  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-18-85 1558 HOURS AVERAGED DATA

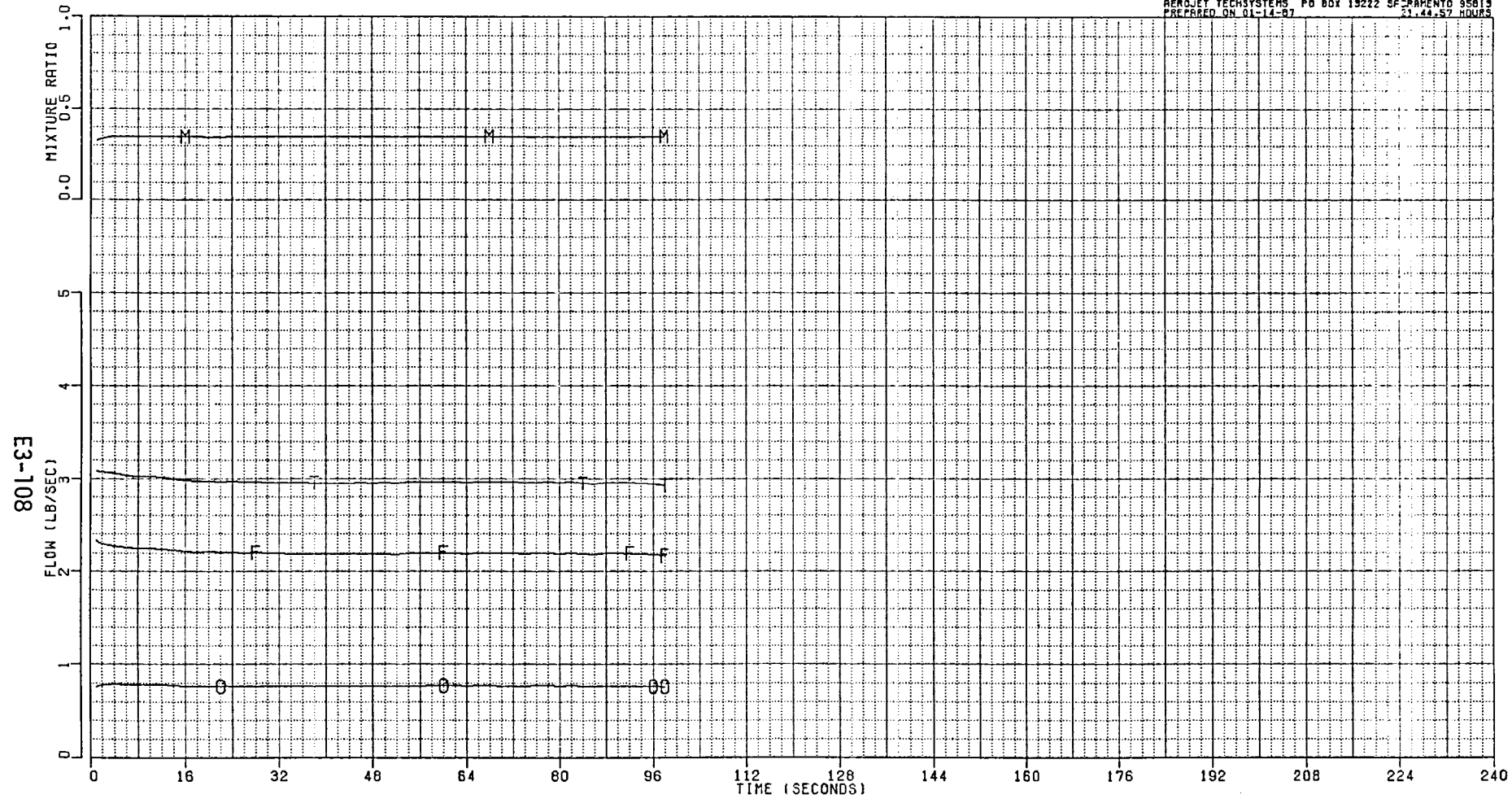


- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-150  
PRESSURE MEASUREMENTS  
TEST DATE 11-18-85 1558 HOURS AVERAGED DATA





E3-108

F WF LBS/SEC  
W WOX LBS/SEC  
T WTOT LBS/SEC  
M MR

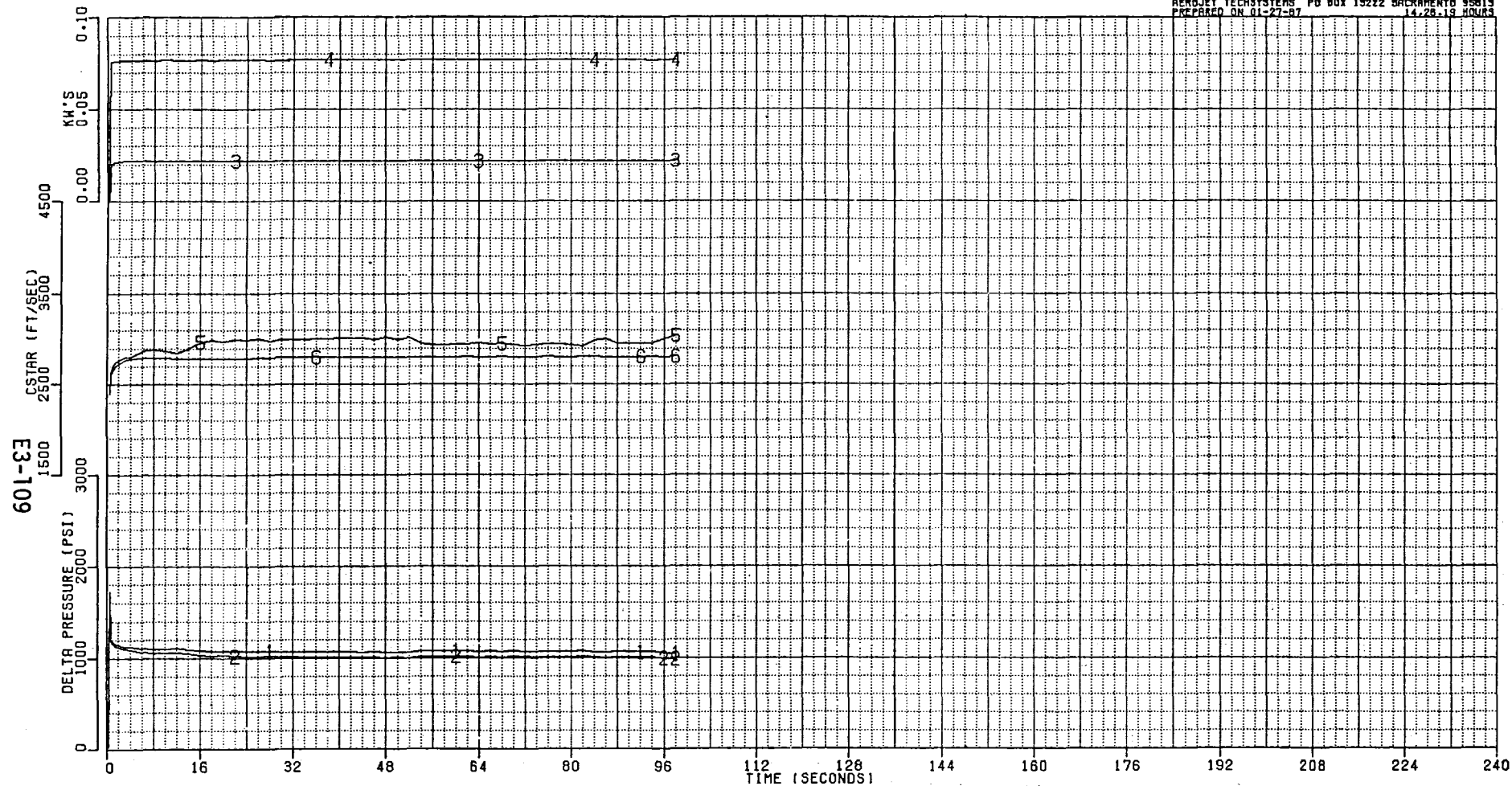
INJECTOR FLOW VS TIME  
TEST NO. 2427-936-A6-151

TEST DATE 11-18-85 1608 HOURS AVERAGED DATA



PREPARED ON 01-27-8

~~14.28.19 HOURS~~

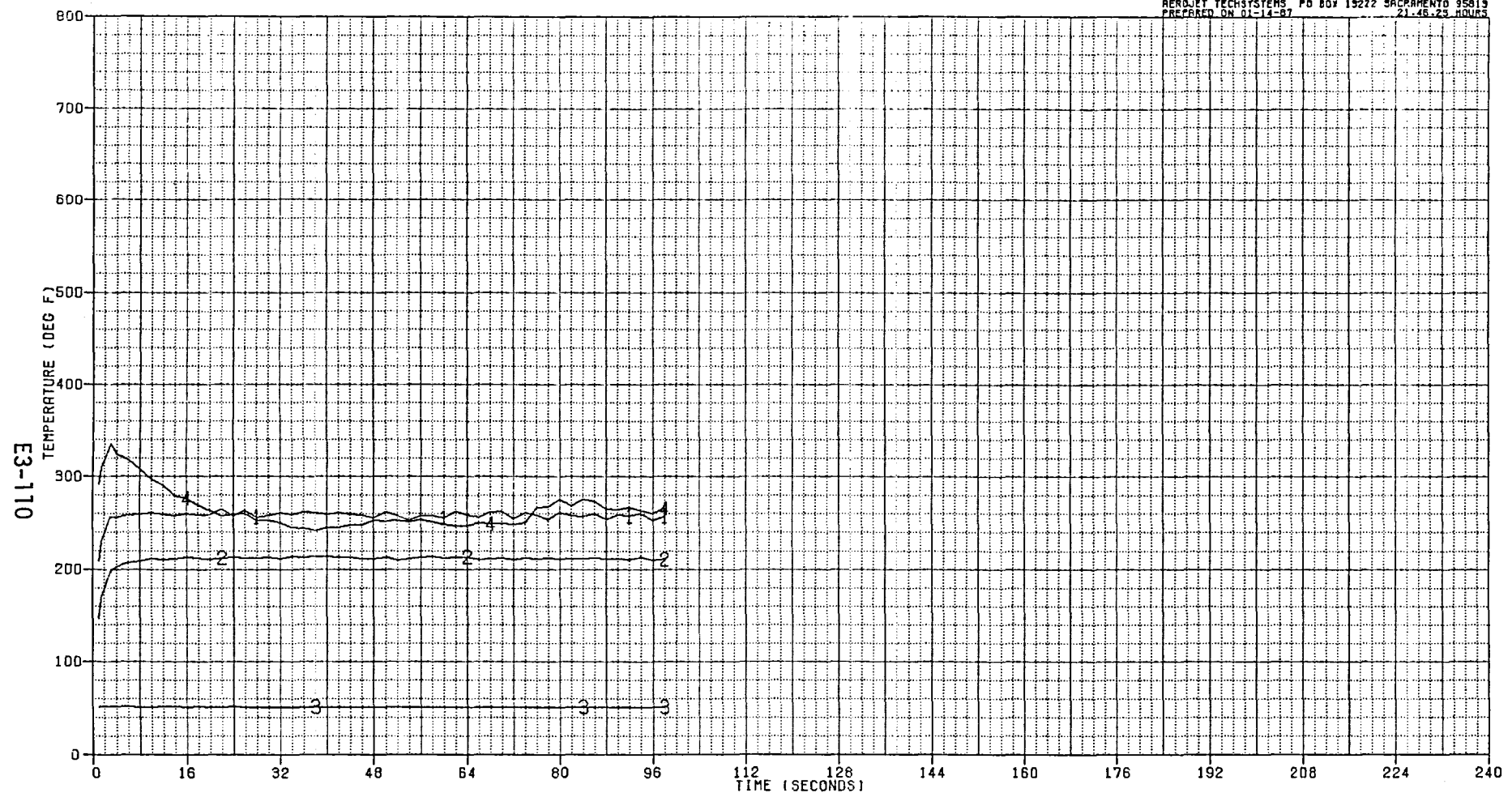


|          |        |
|----------|--------|
| 1 DPQJ   | PSI    |
| 2 DPFJ   | PSI    |
| 3 KWOJ   |        |
| 4 KWFJ   |        |
| 5 CSTRPB | FT/SEC |
| 6 CSTAR  | FT/SEC |

**AEROJET**  
**@TechSystems**  
**COMPANY**

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-936-A6-151

TEST DATE 11-18-85 1608 HOURS      AVERAGED DATA

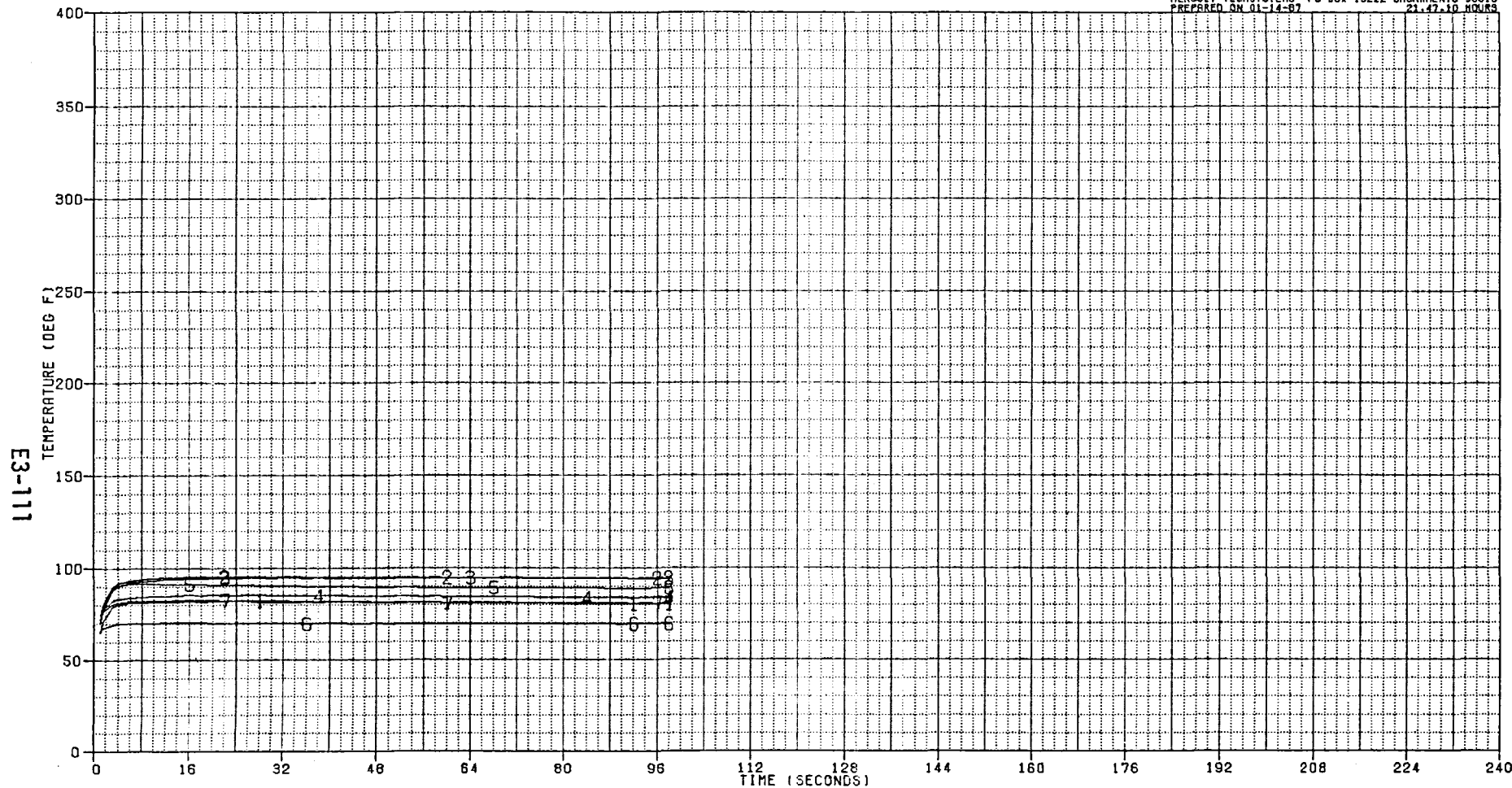


- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-151  
BARREL DATA  
TEST DATE 11-18-85 1608 HOURS AVERAGED DATA







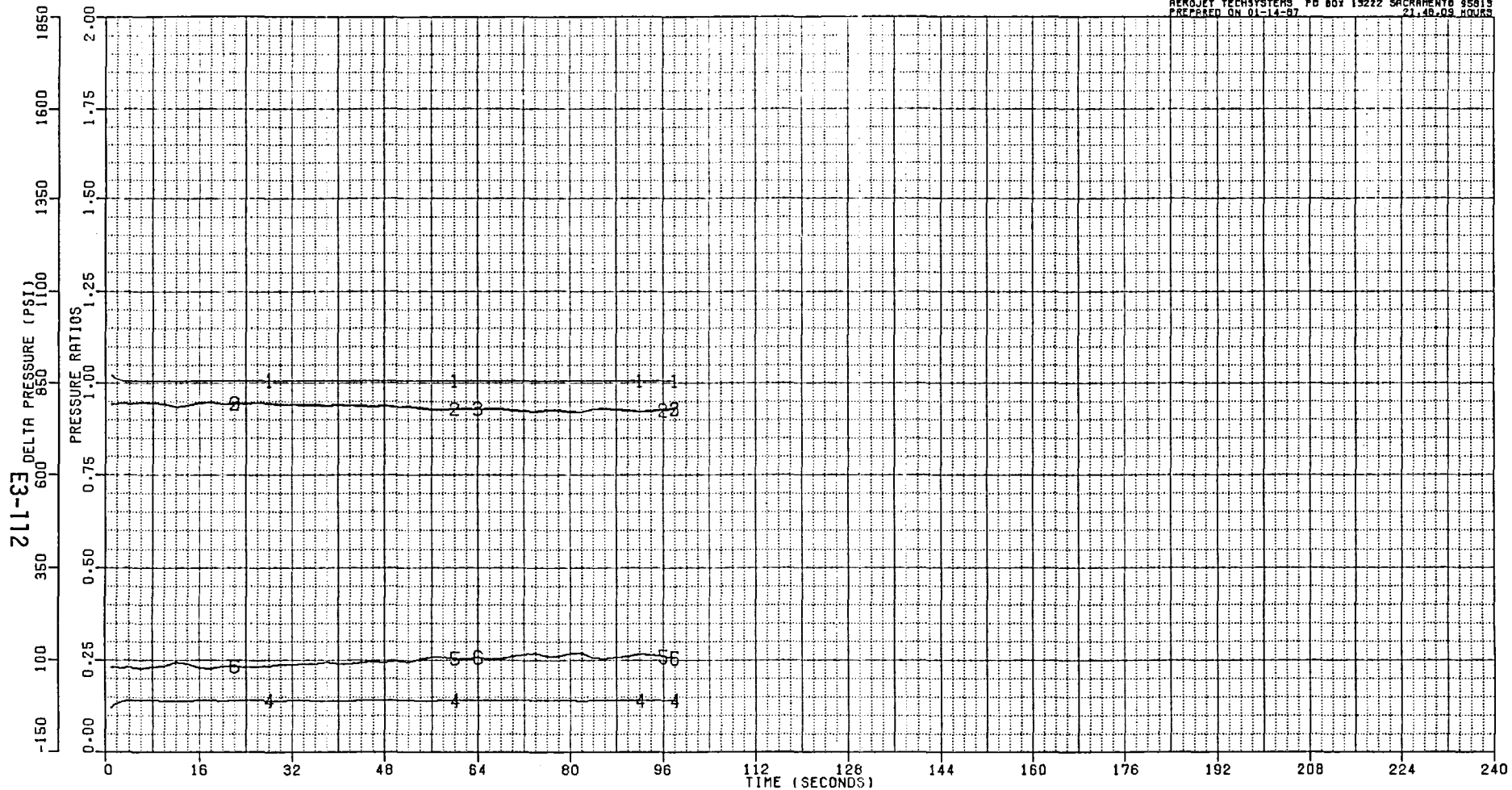
- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

AEROJET  
**@TechSystems**  
 COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-151

TEST DATE 11-18-85 1608 HOURS AVERAGED DATA



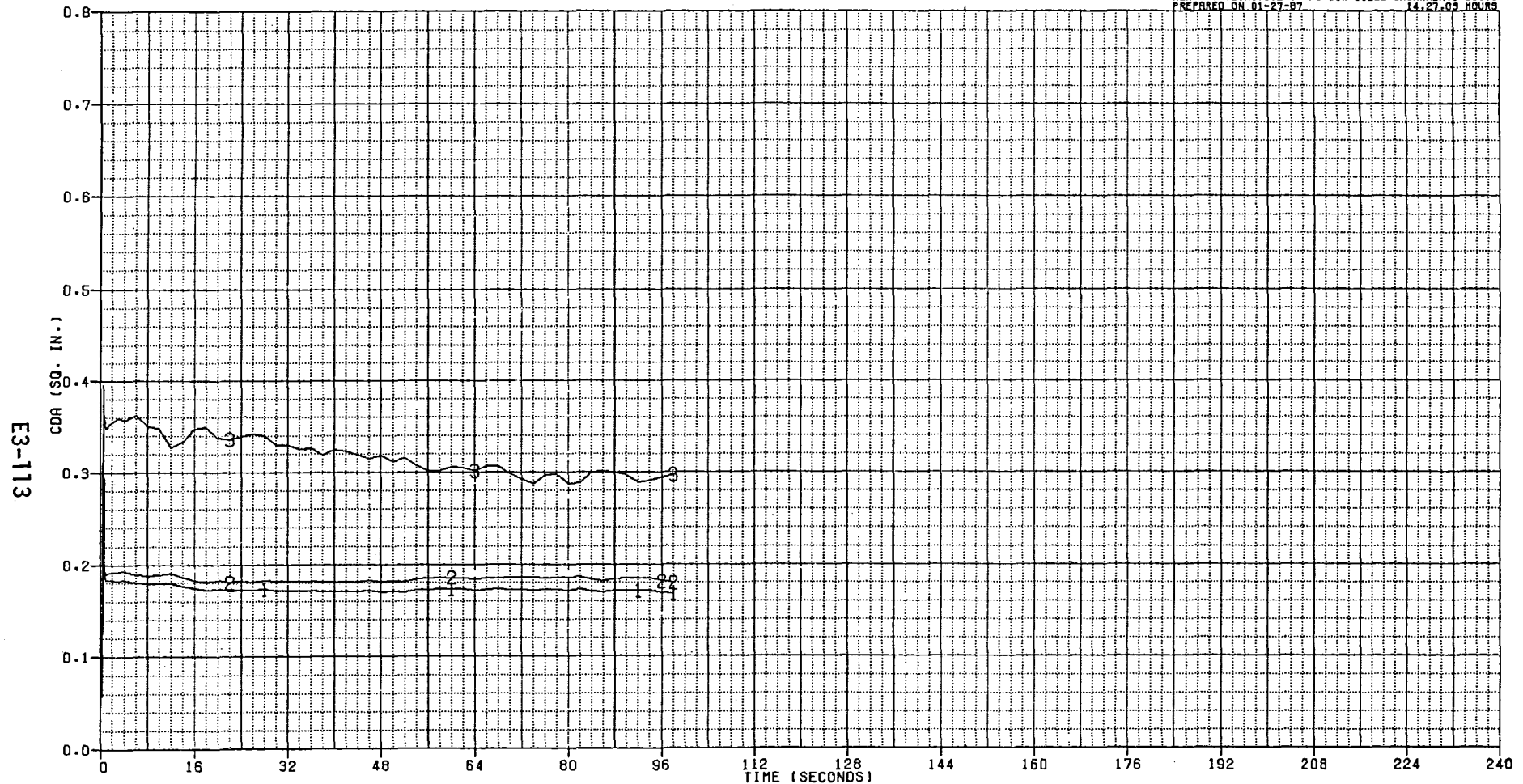


- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

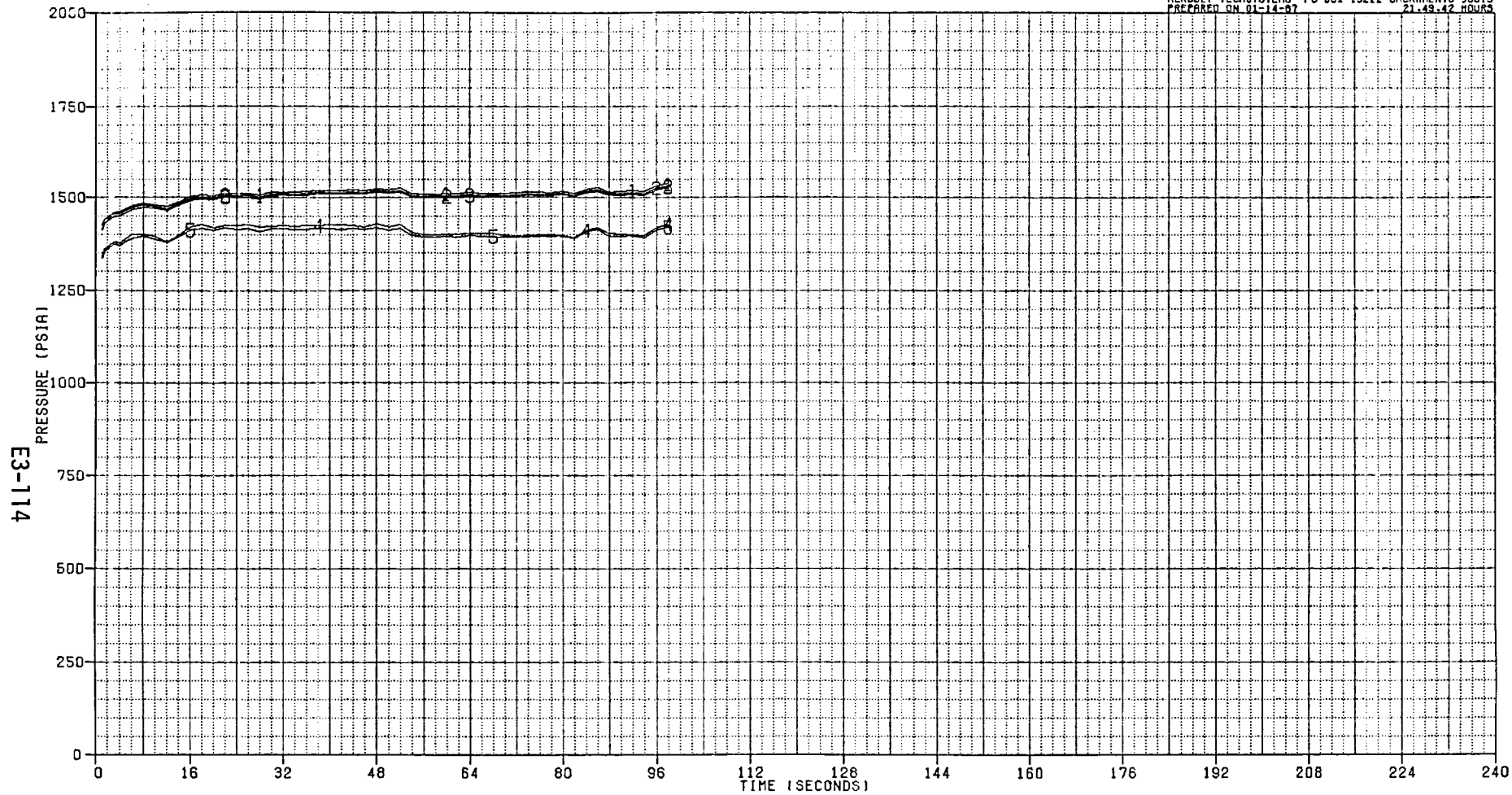
AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-151  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 11-18-85 1608 HOURS AVERAGED DATA



1 NA1 SQ-IN.  
 2 NA2 SQ-IN.  
 3 CDA

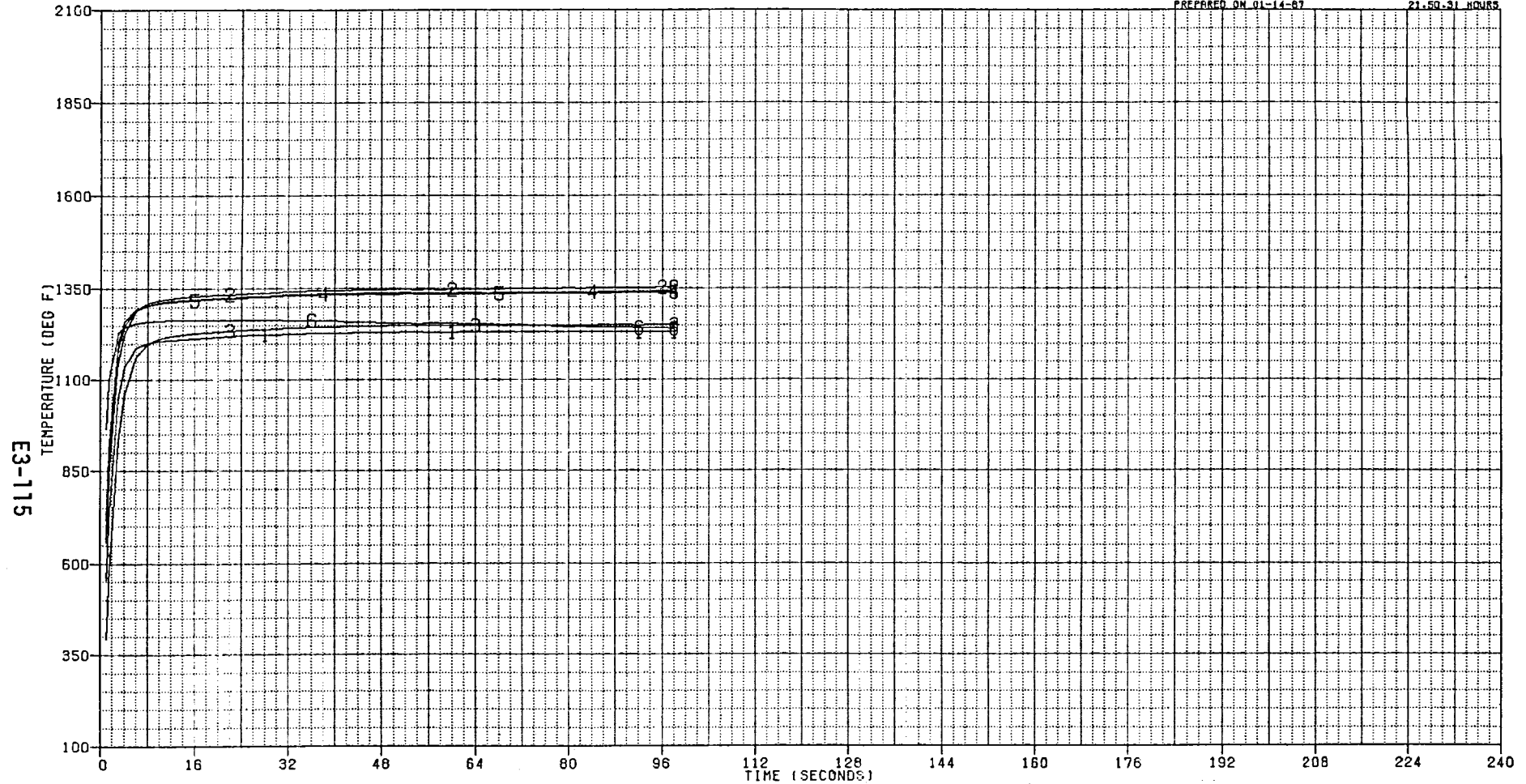
INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-151  
 NOZZLE AREA CHANGE  
 TEST DATE 11-18-85 1608 HOURS AVERAGED DATA



- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



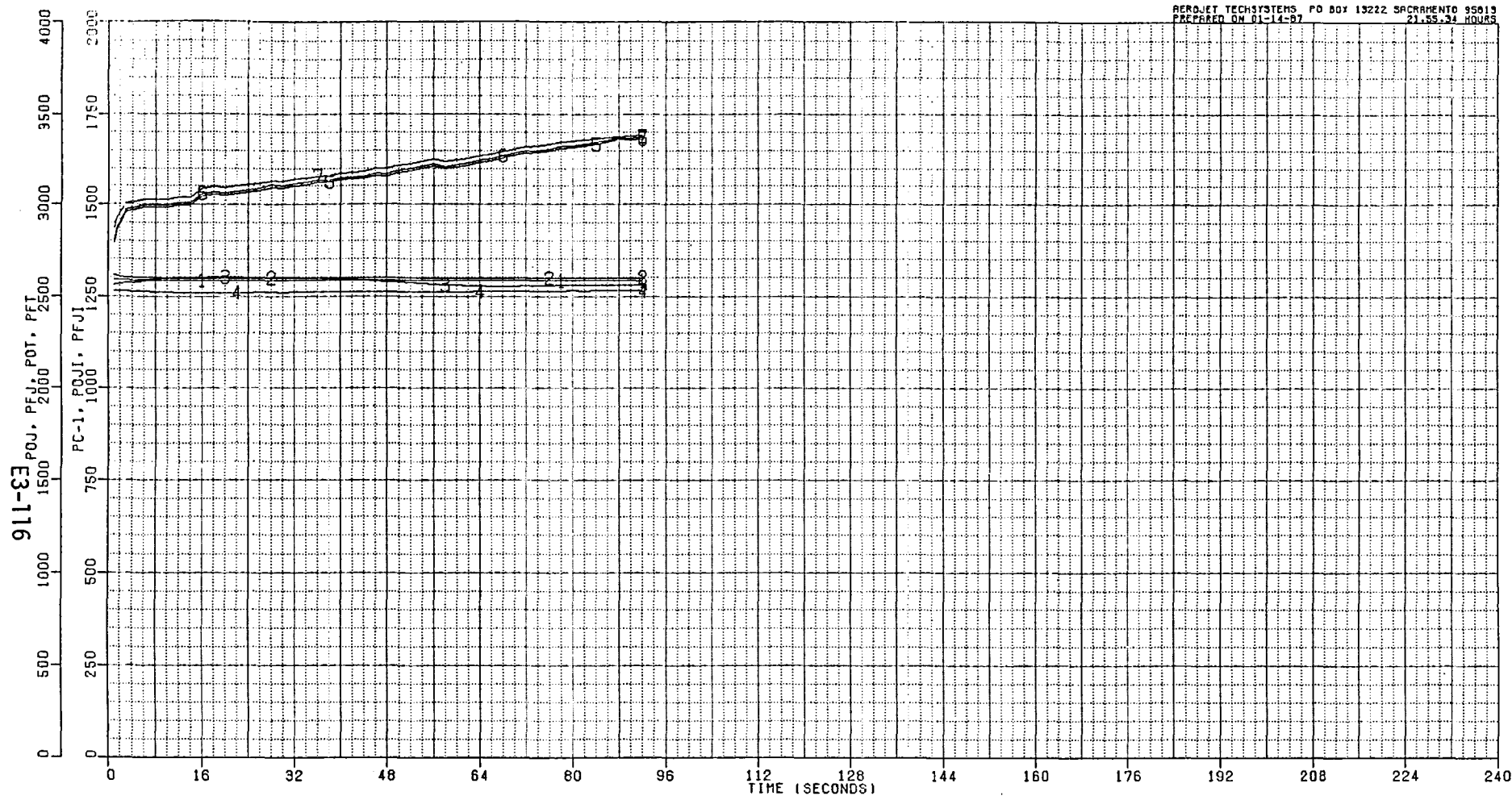
TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-151  
PRESSURE MEASUREMENTS  
TEST DATE 11-18-85 1608 HOURS AVERAGED DATA



- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-151  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-18-85 1608 HOURS AVERAGED DATA

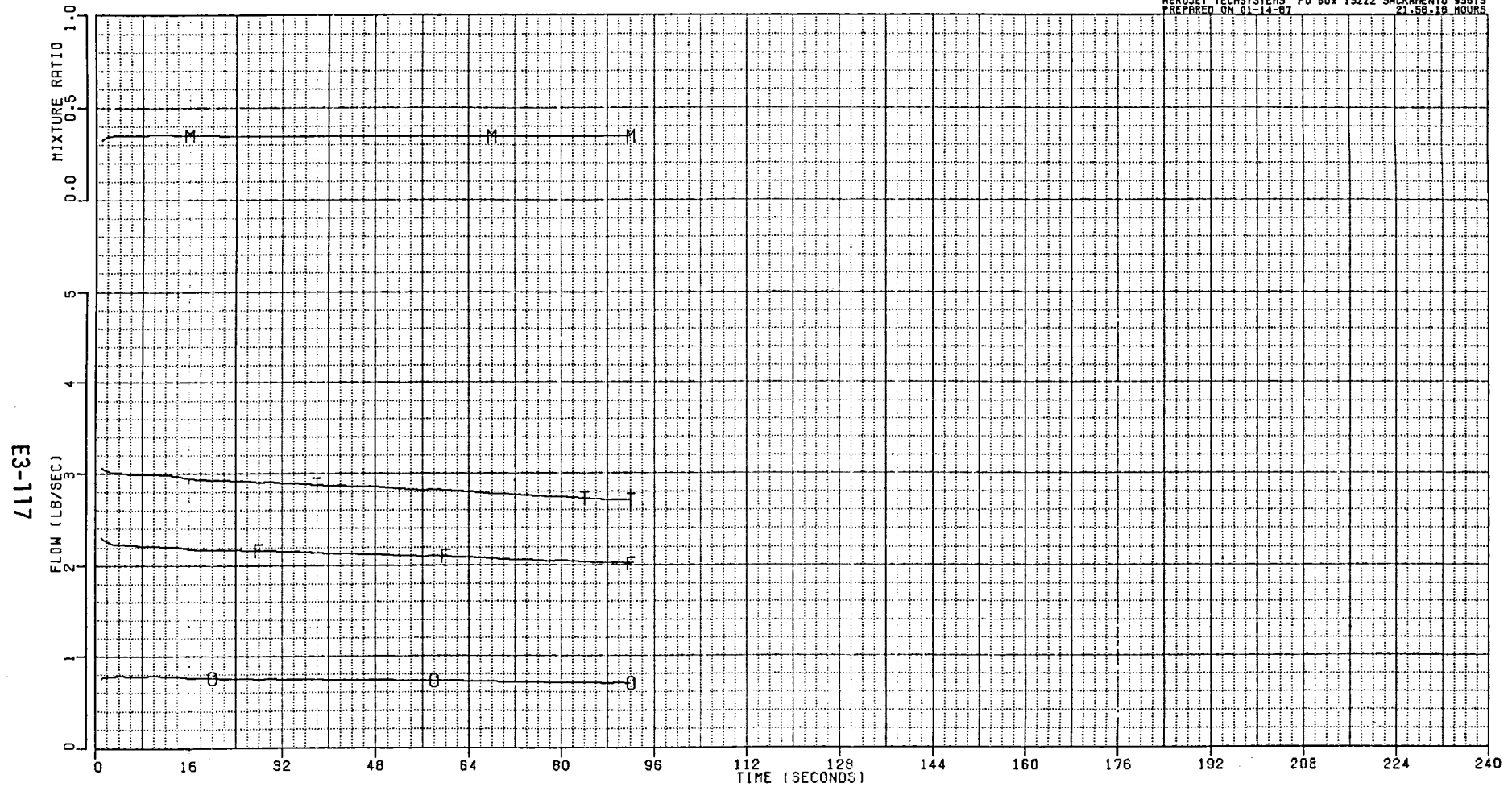


|        |      |
|--------|------|
| 1 POT  | PSIA |
| 2 PFT  | PSIA |
| 3 PQJ  | PSIA |
| 4 PFJ  | PSIA |
| 5 PC-1 | PSIA |
| 6 PQJI | PSIA |
| 7 PFJI | PSIA |

AEROJET  
  
 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-936-A6-152

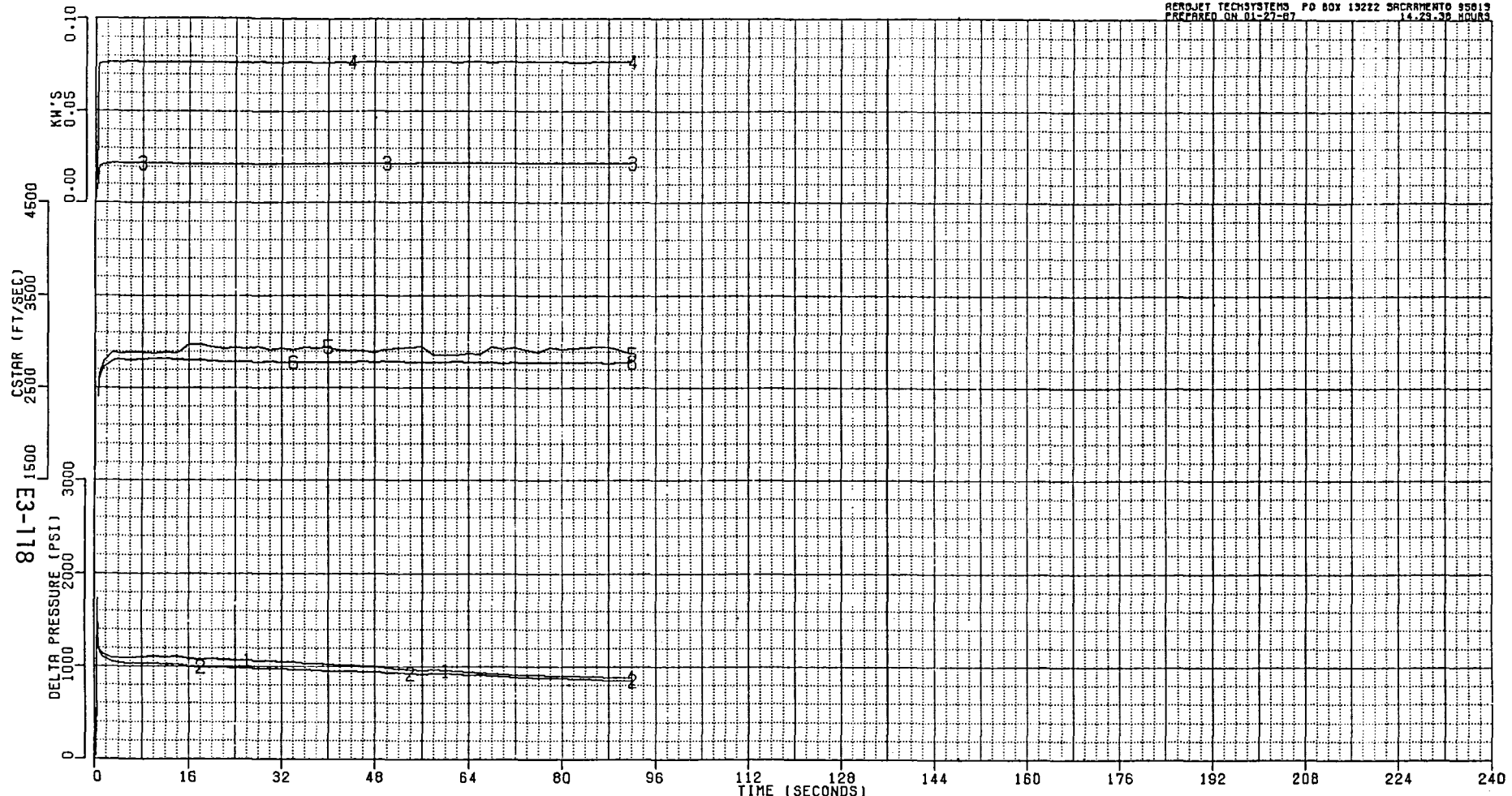
TEST DATE 11-19-85 1112 HOURS AVERAGED DATA



F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-152

TEST DATE 11-19-85 1112 HOURS AVERAGED DATA



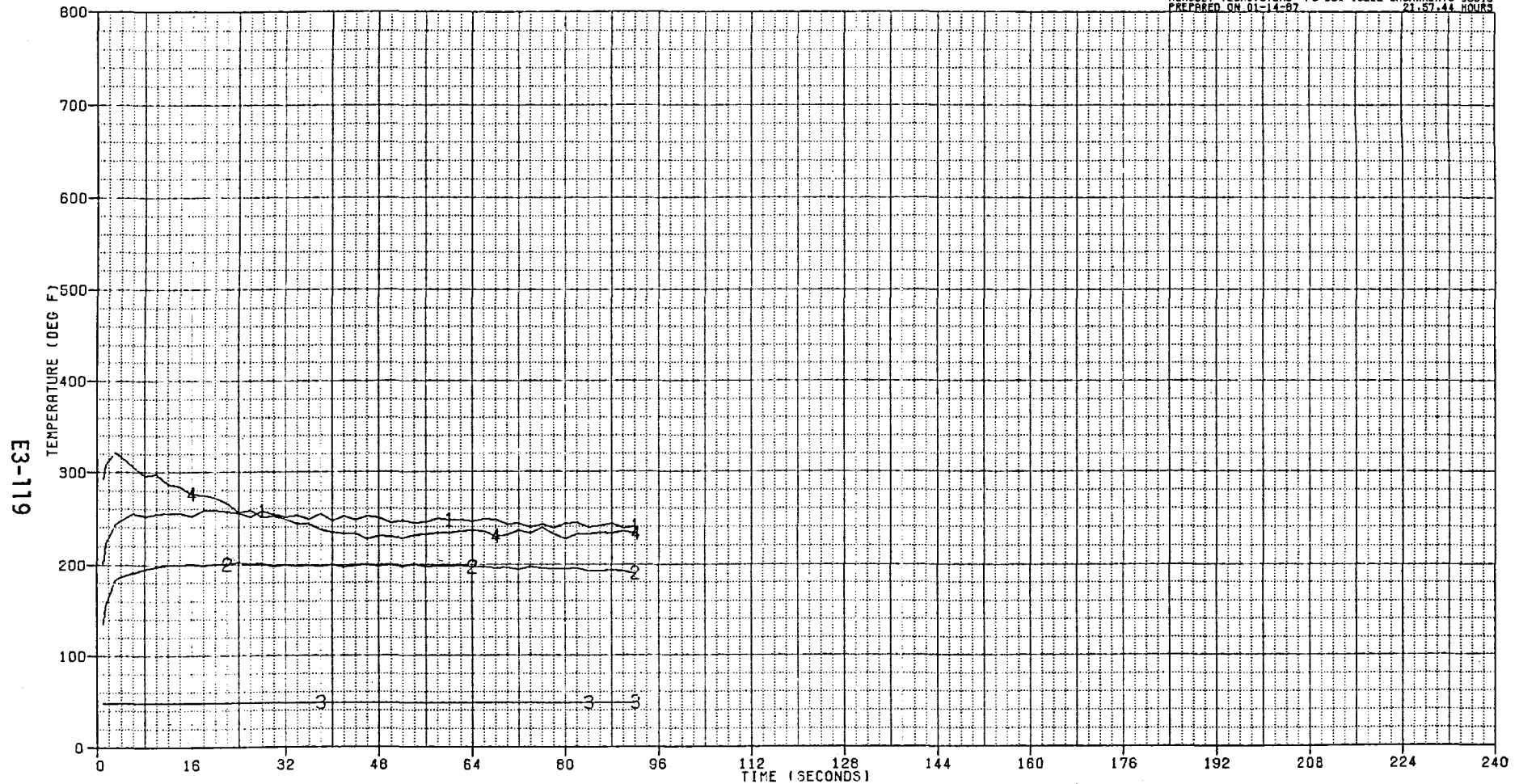
- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWQJ PSI
- 4 KWFJ PSI
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC



INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-152

TEST DATE 11-19-85 1112 HOURS AVERAGED DATA

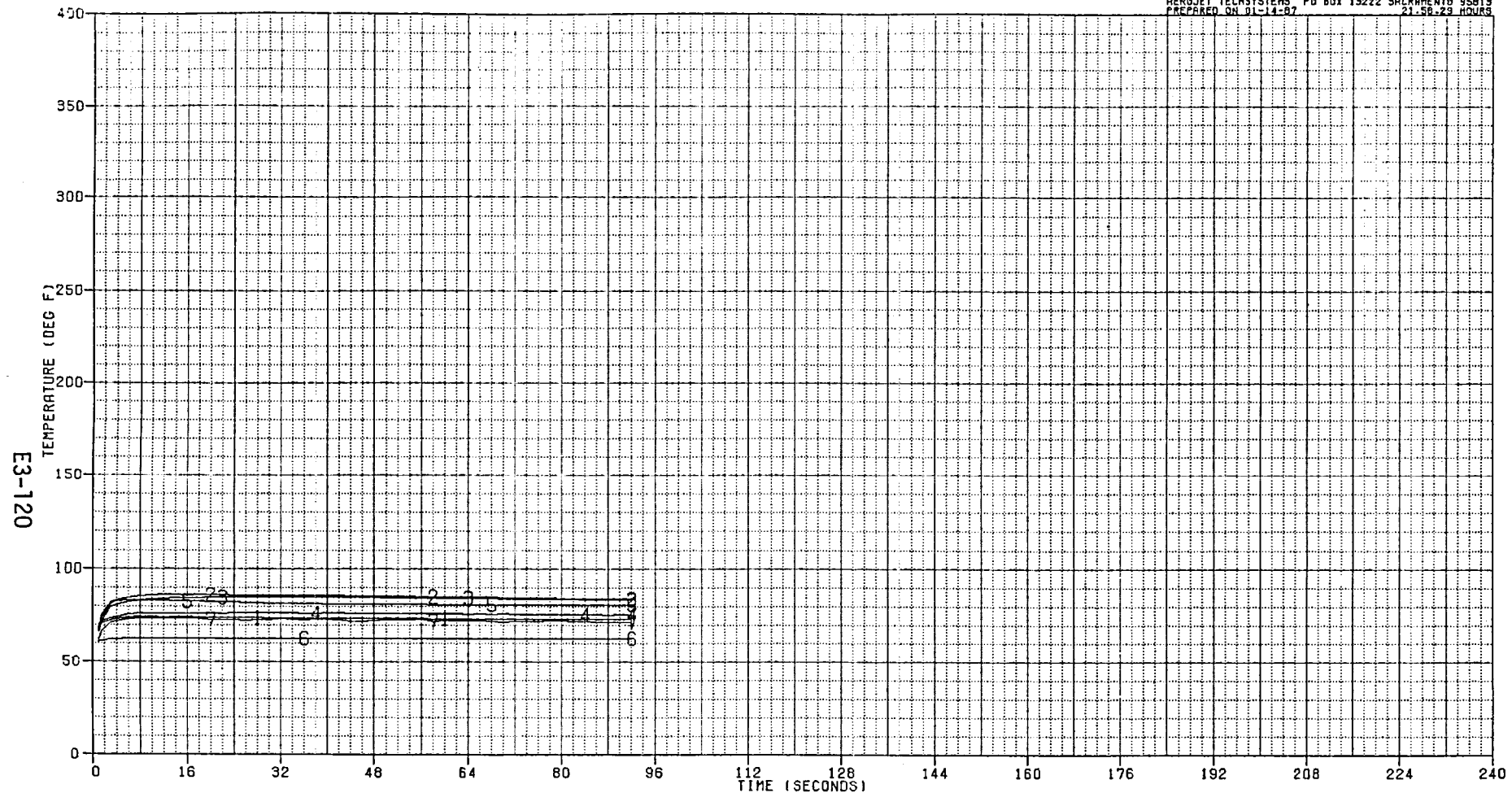




1 TC-7 DEG F  
2 TC-10 DEG F  
3 TC-11 DEG F  
4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-152  
BARREL DATA  
TEST DATE 11-19-85 1112 HOURS AVERAGED DATA



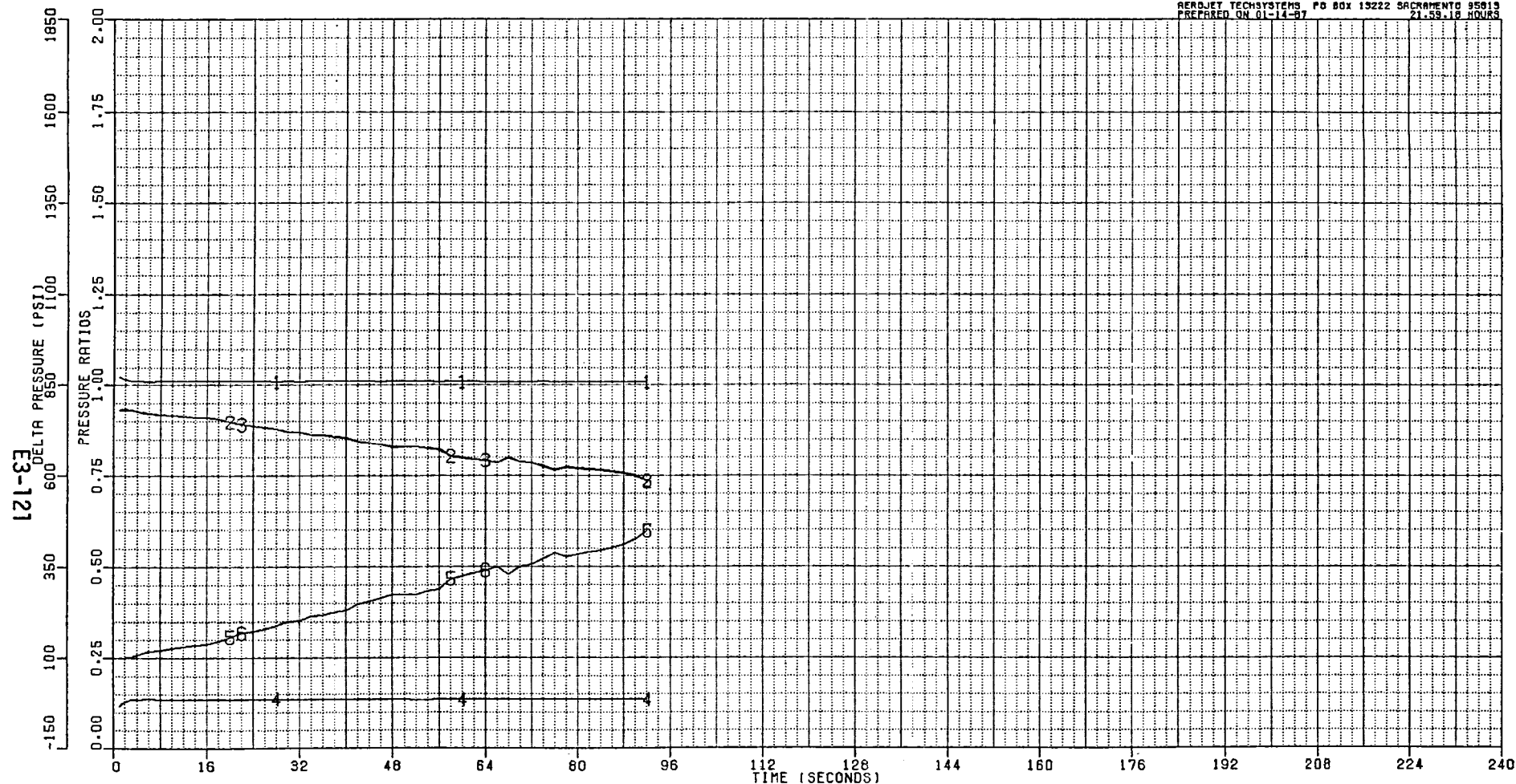


E3-120

- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

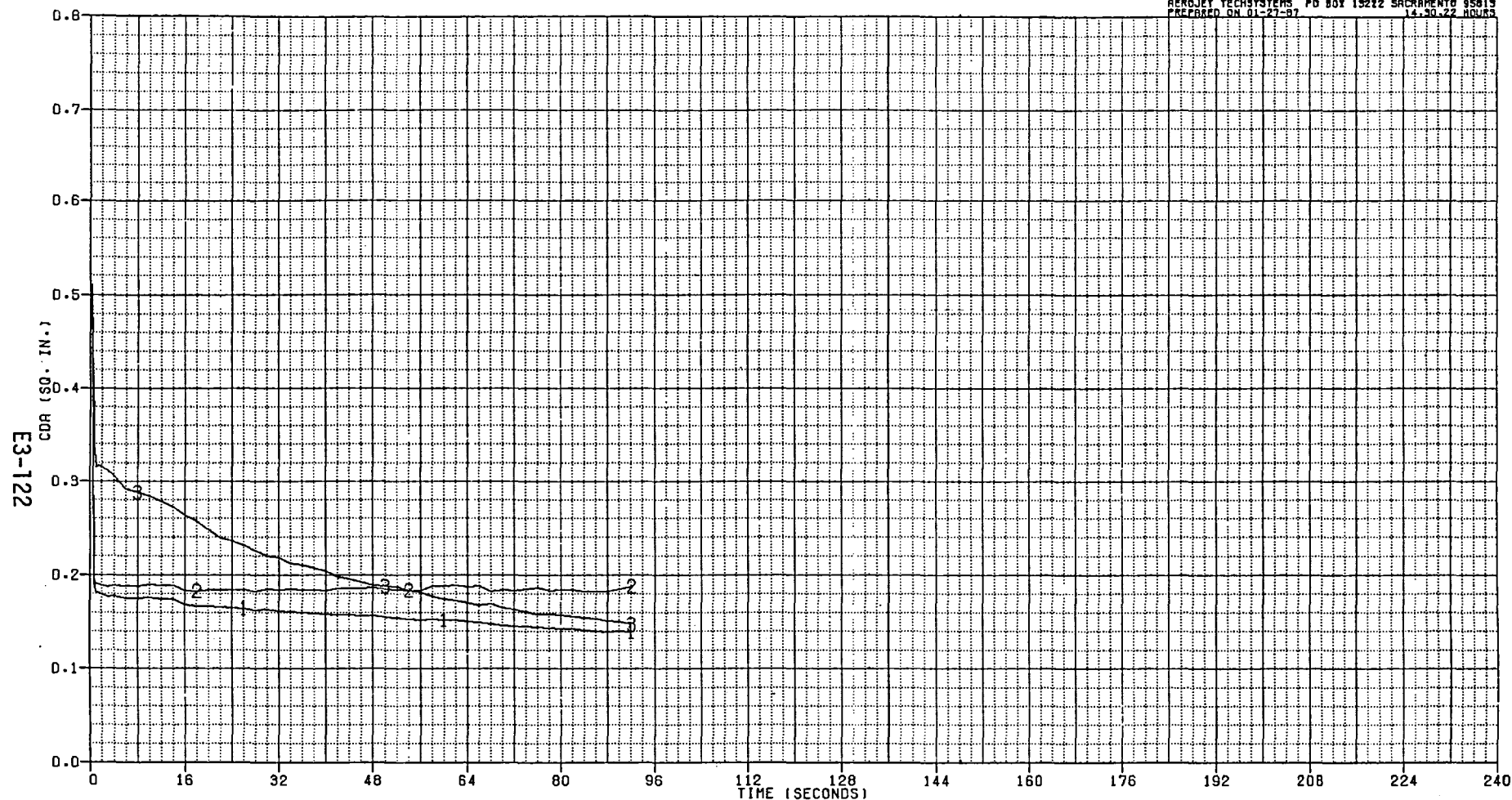


COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-152  
 TEST DATE 11-19-85 1112 HOURS AVERAGED DATA



TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-152  
 CHAMBER PRESSURE DROPS AND RATIOS  
 TEST DATE 11-19-85 1112 HOURS AVERAGED DATA

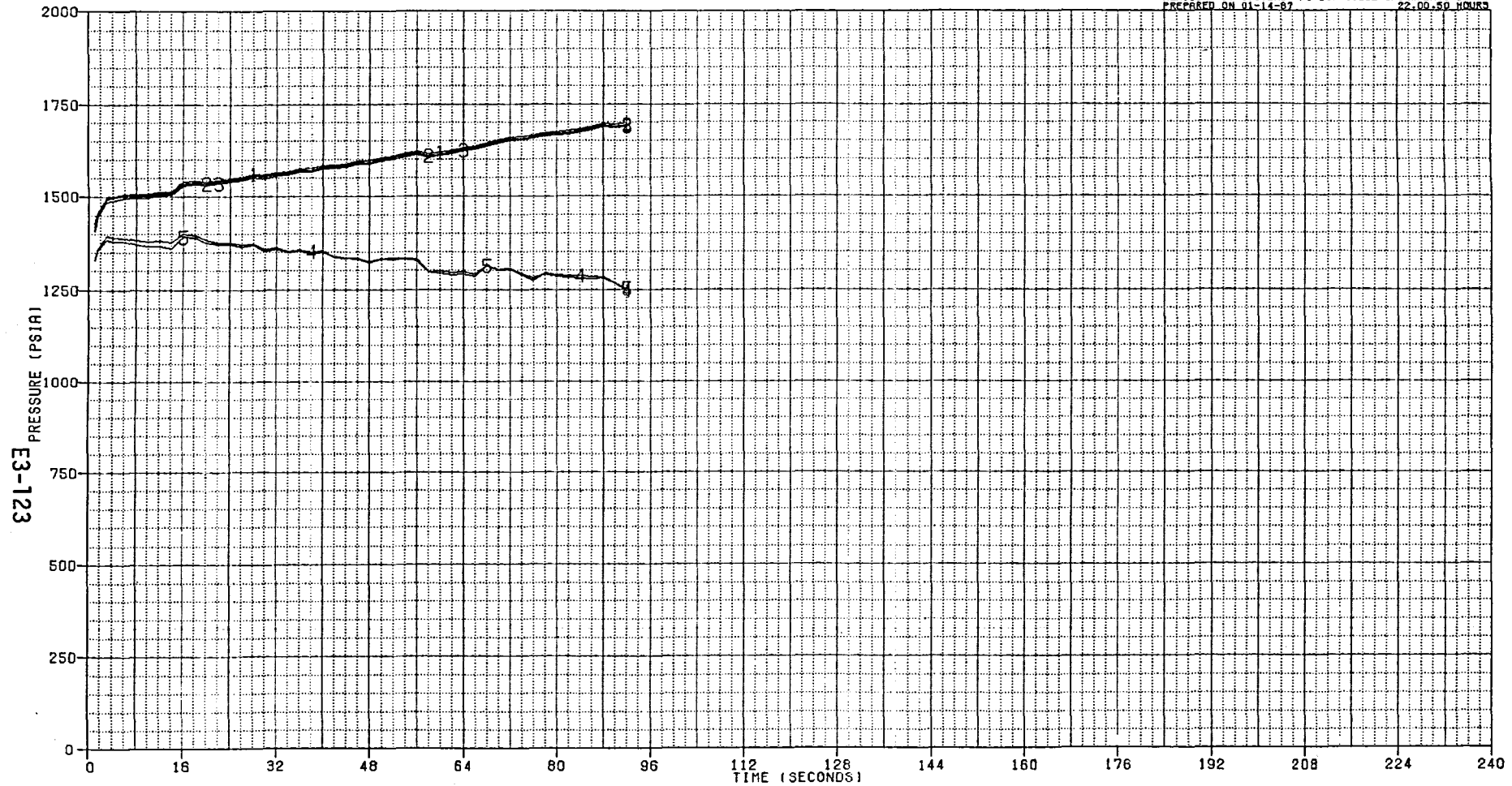
AEROJET  
**TechSystems**  
 COMPANY



1 NA1 SQ.IN.  
 2 NA2 SQ.IN.  
 3 CDR

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-152  
 NOZZLE AREA CHANGE  
 TEST DATE 11-19-85 1112 HOURS AVERAGED DATA

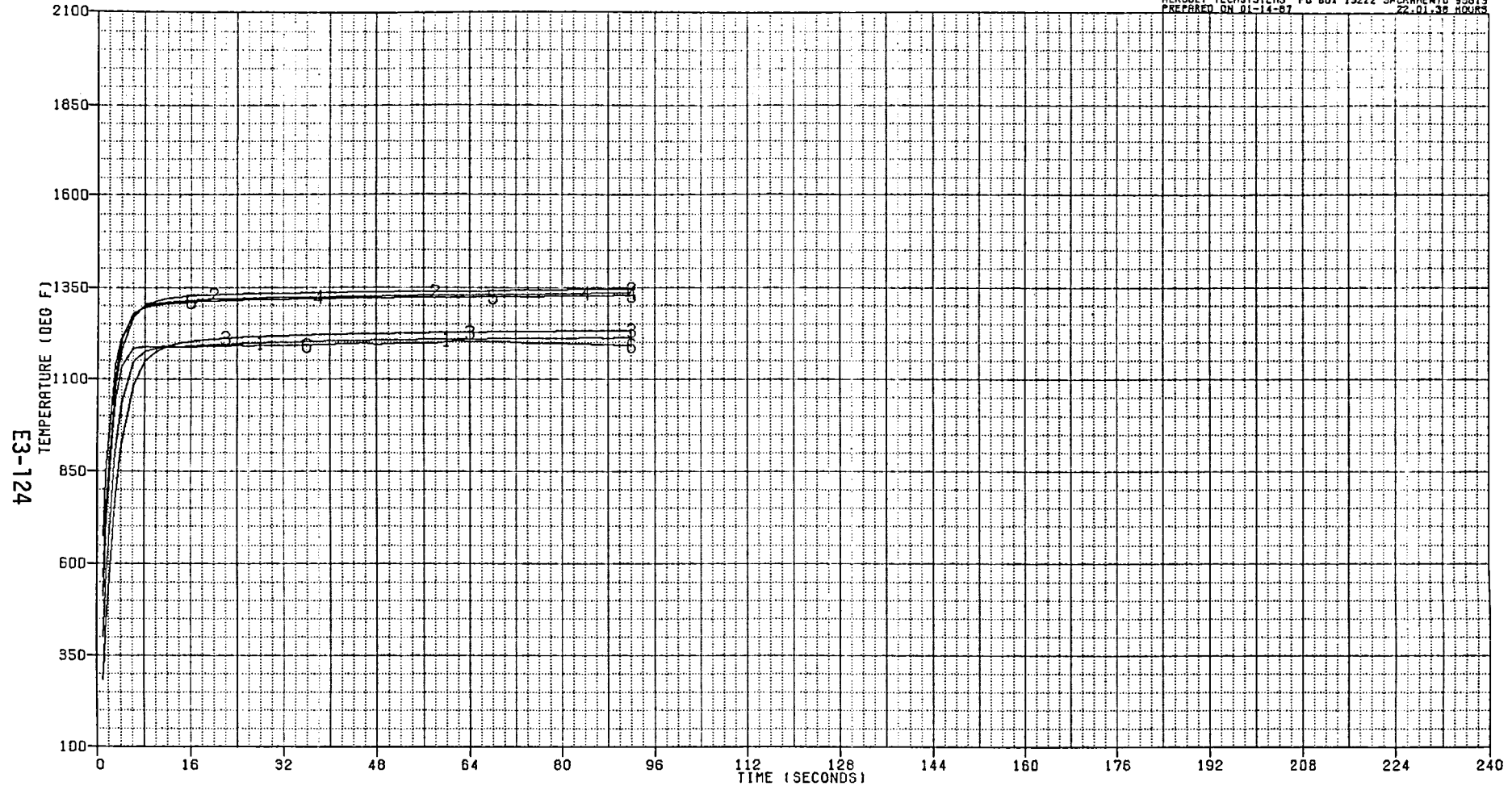
AEROJET  
**TechSystems**  
 COMPANY



- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



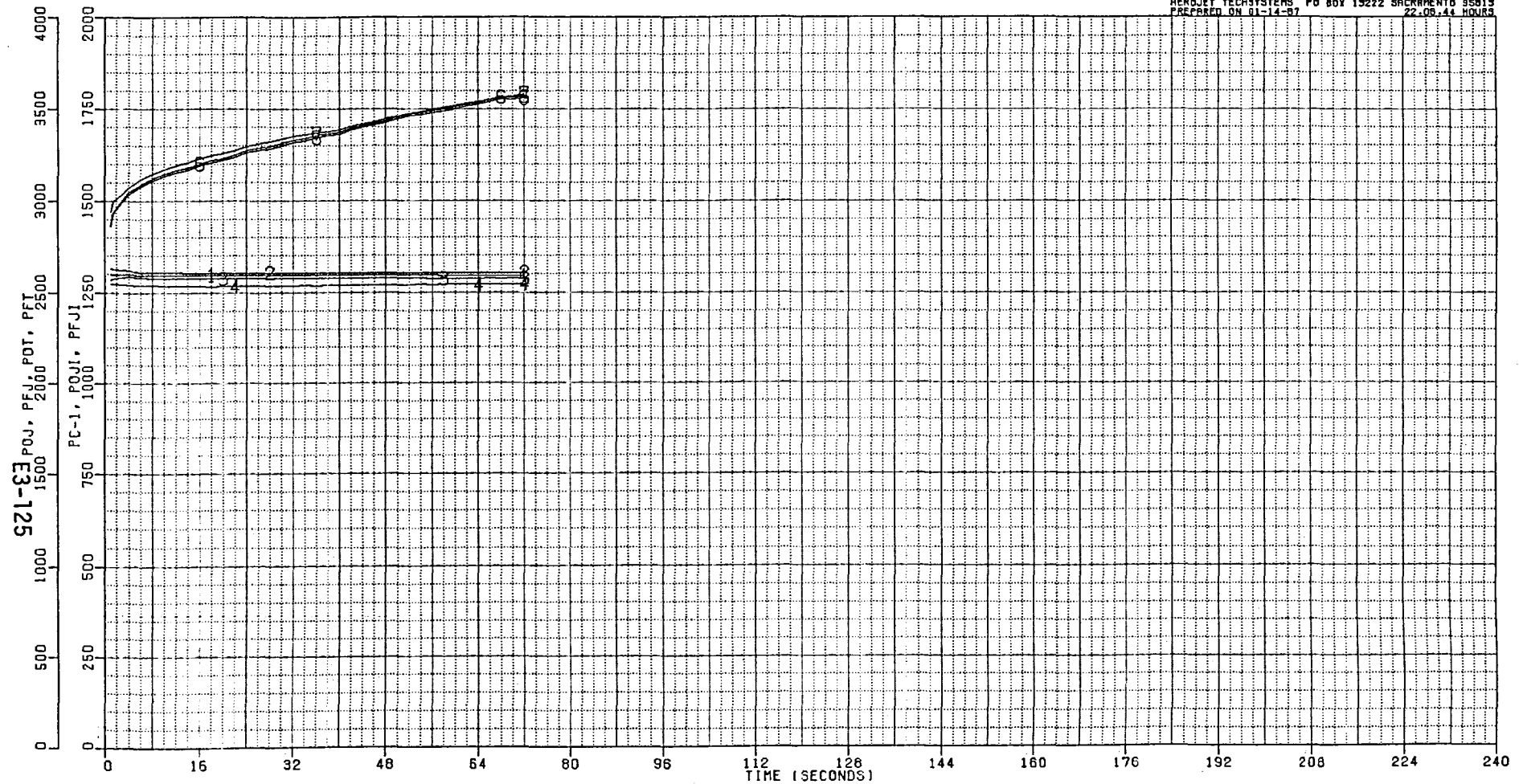
TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-152  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 1112 HOURS AVERAGED DATA



- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-152  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 1112 HOURS AVERAGED DATA

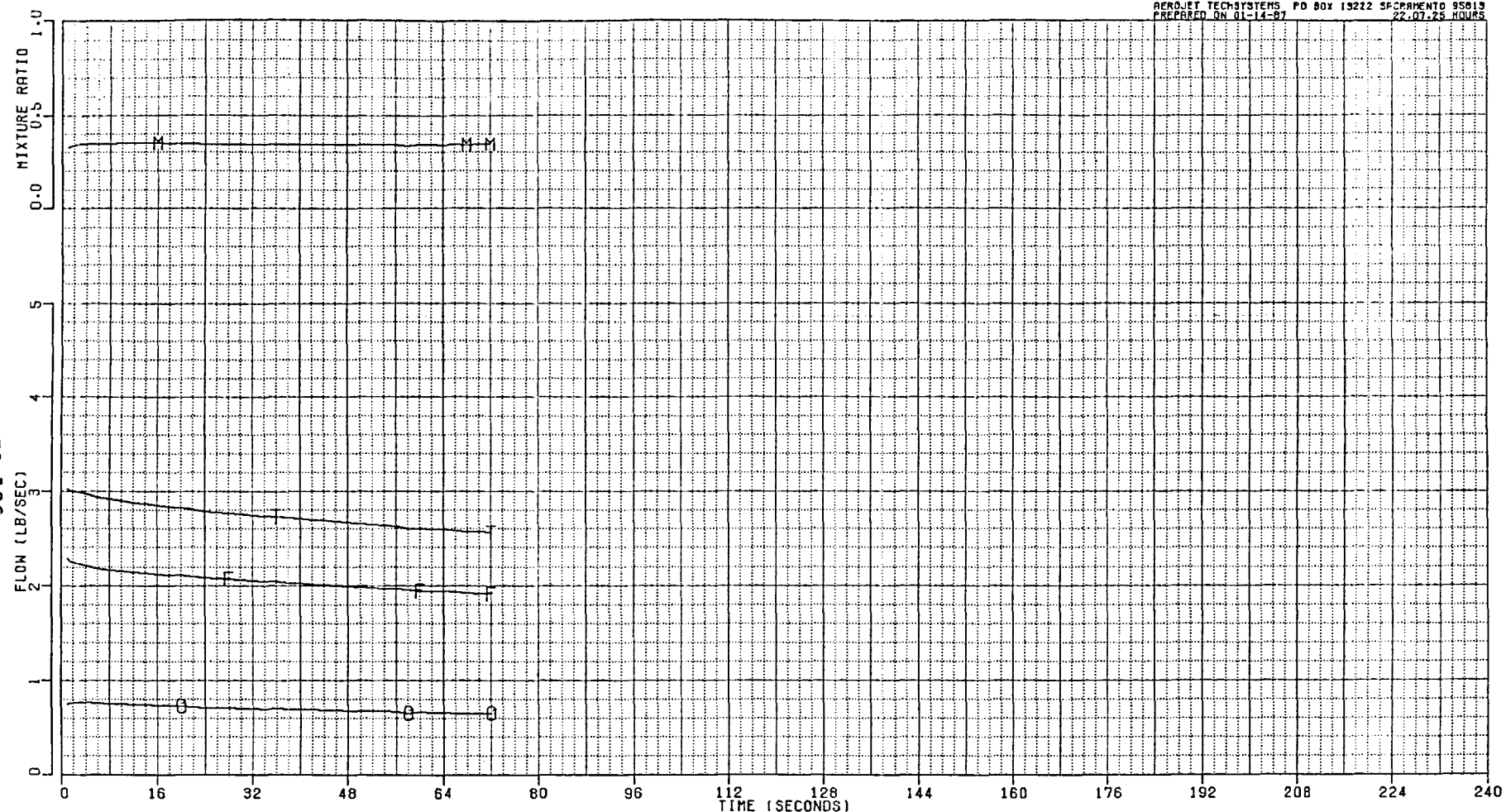


MEASURED PRESSURES VS TIME  
TEST NO. 2427-936-A6-153

TEST DATE 11-19-85 1159 HOURS AVERAGED DATA

AEROJET  
**TechSystems**  
COMPANY

E3-126



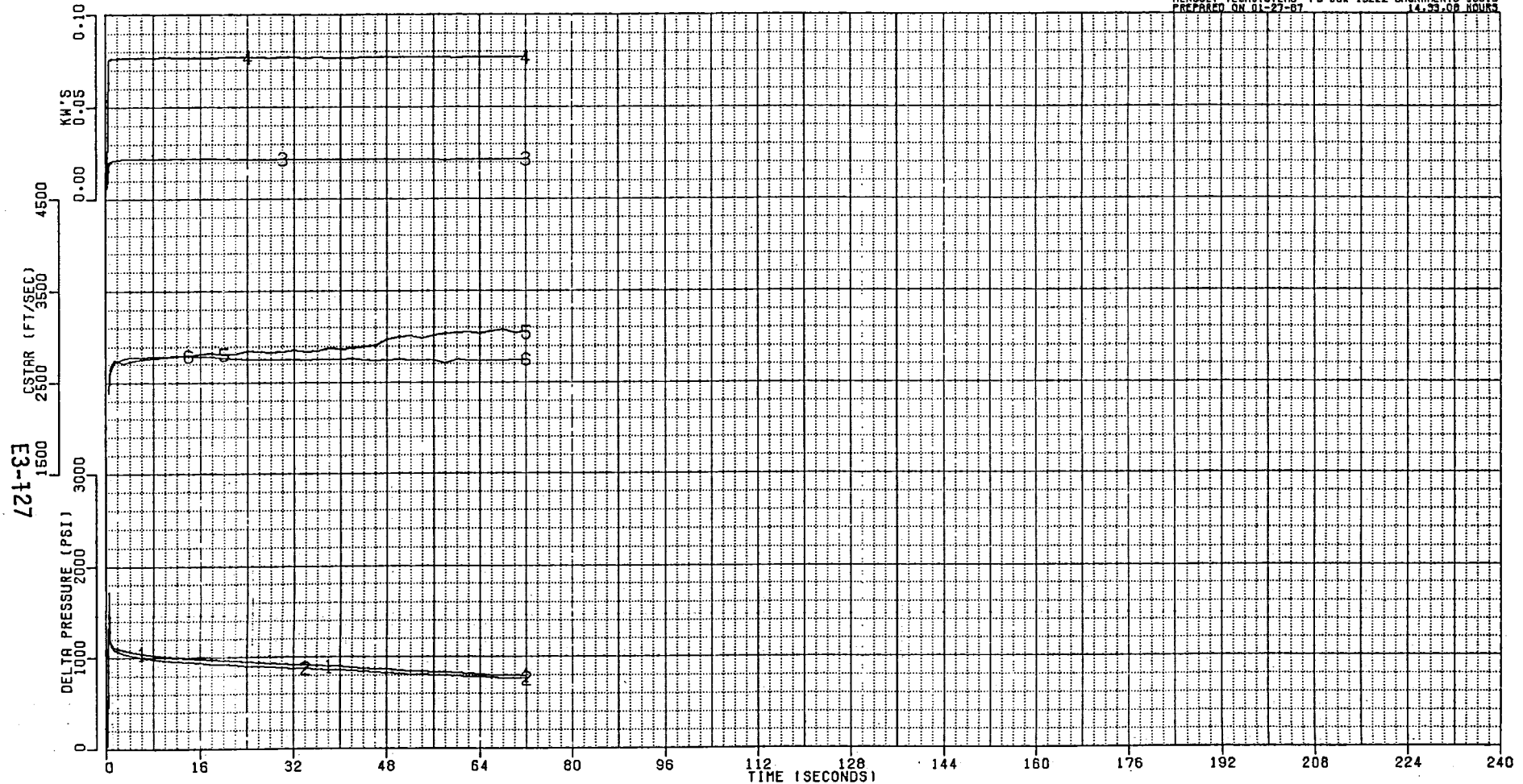
F WF LBS/SEC  
 O WX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-153

TEST DATE 11-19-85 1159 HOURS AVERAGED DATA







E3-127

- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWQJ PSI
- 4 KWFJ PSI
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

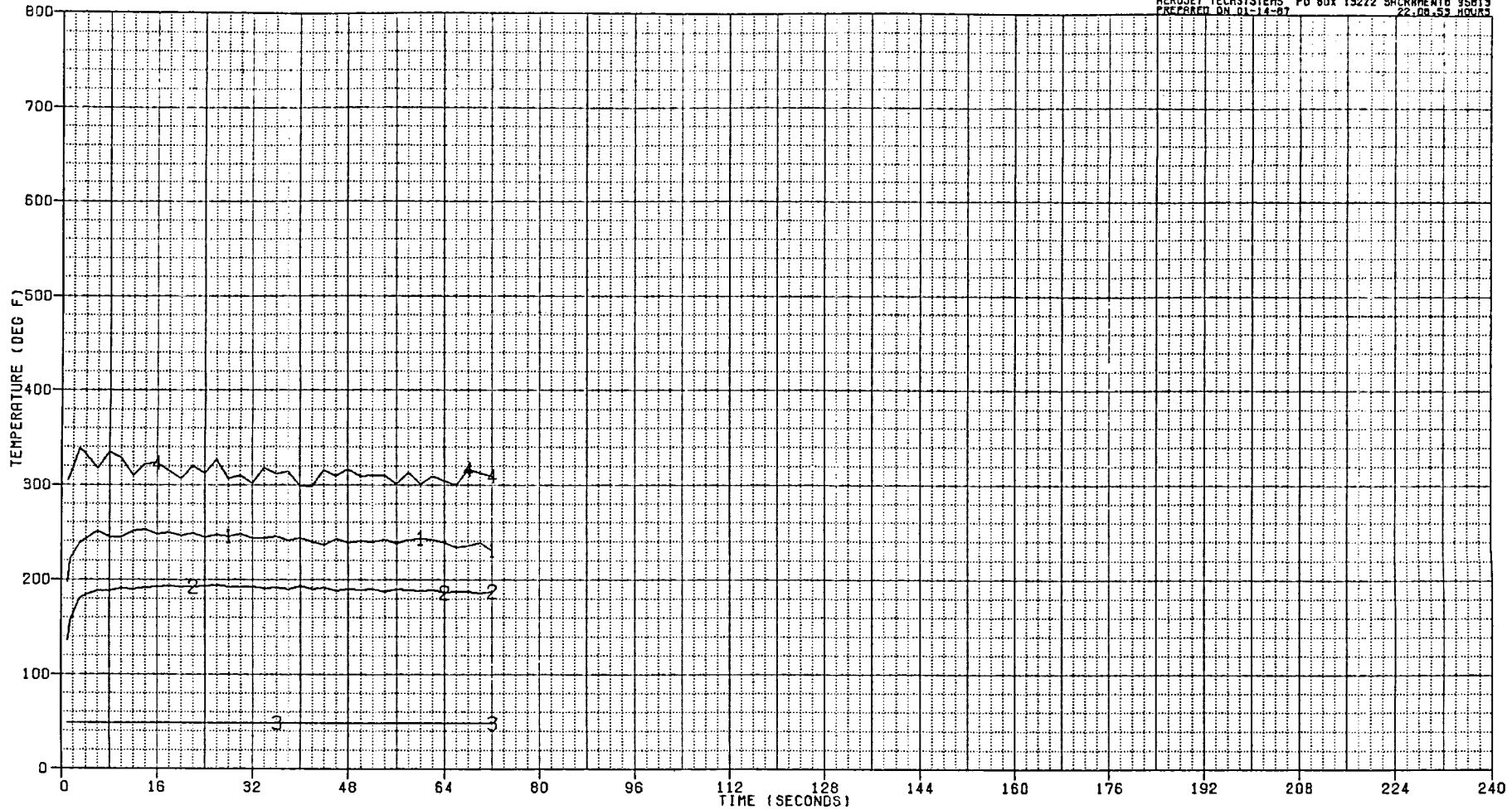
AEROJET  
**@TechSystems**  
 COMPANY

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-153

TEST DATE 11-19-85 1159 HOURS AVERAGED DATA



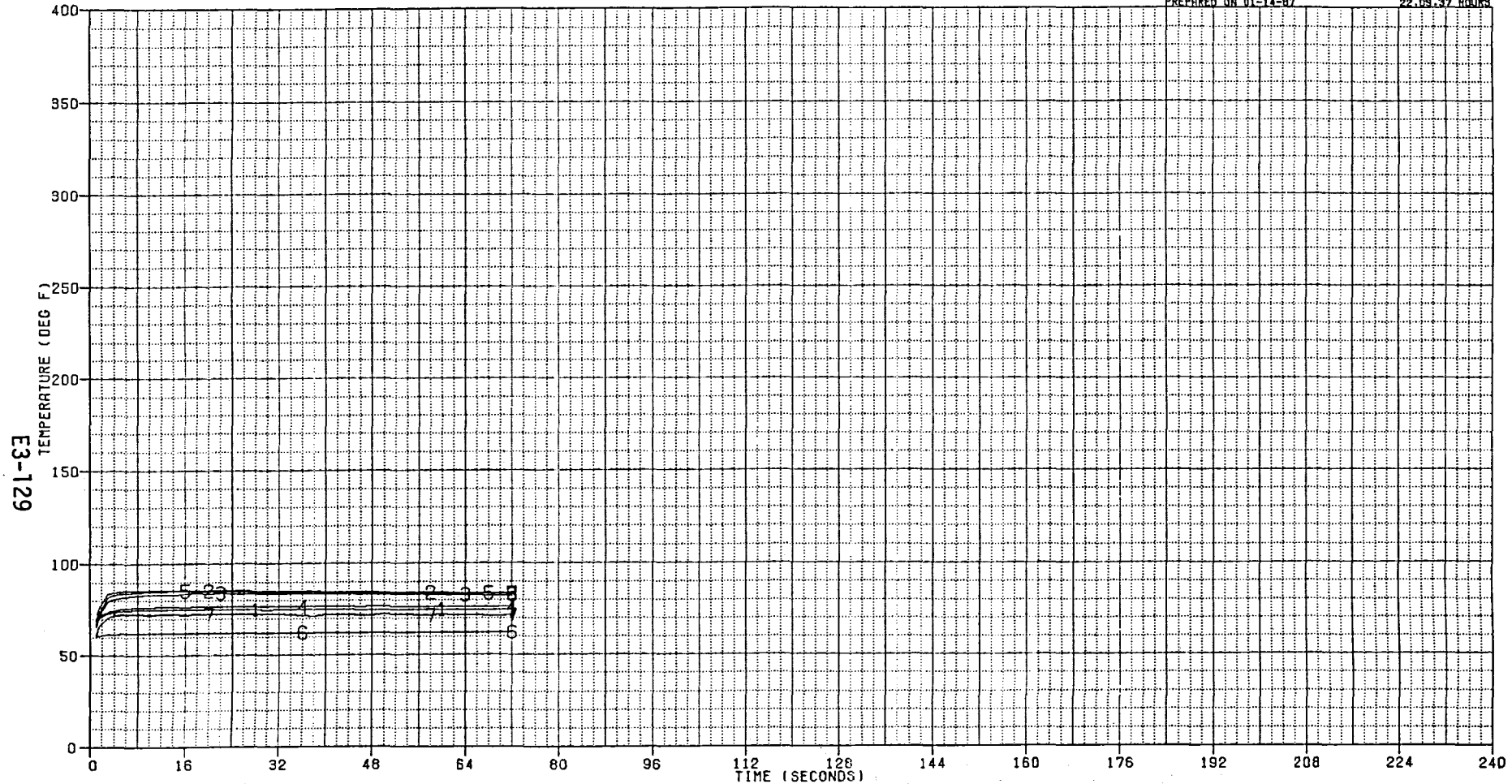
E3-128



1 TC-7 DEG F  
2 TC-10 DEG F  
3 TC-11 DEG F  
4 TC-12 DEG F

AEROJET  
**TechSystems**  
COMPANY

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-153  
BARREL DATA  
TEST DATE 11-19-85 1159 HOURS AVERAGED DATA

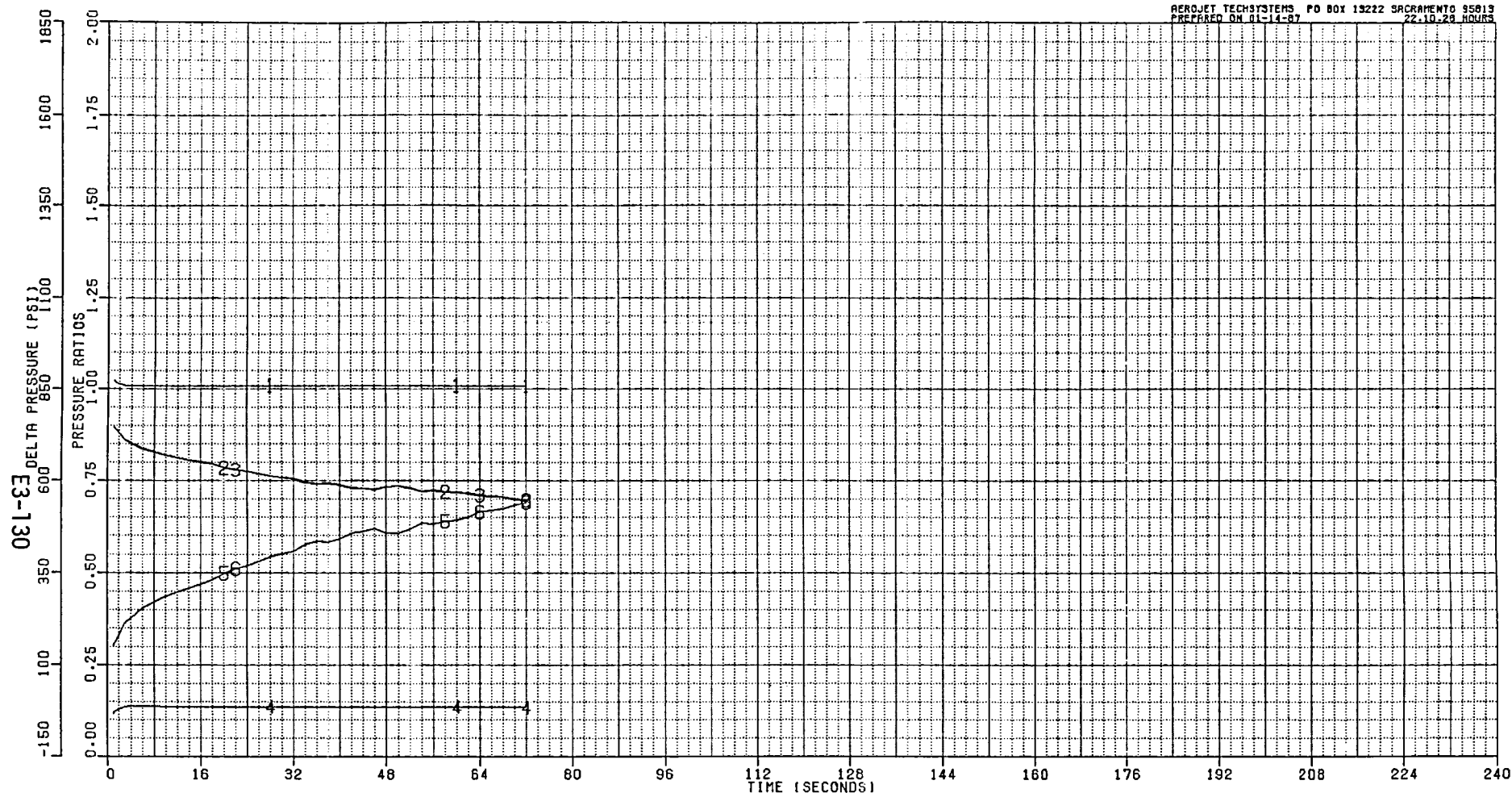


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F



COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-153

TEST DATE 11-19-85 1159 HOURS AVERAGED DATA

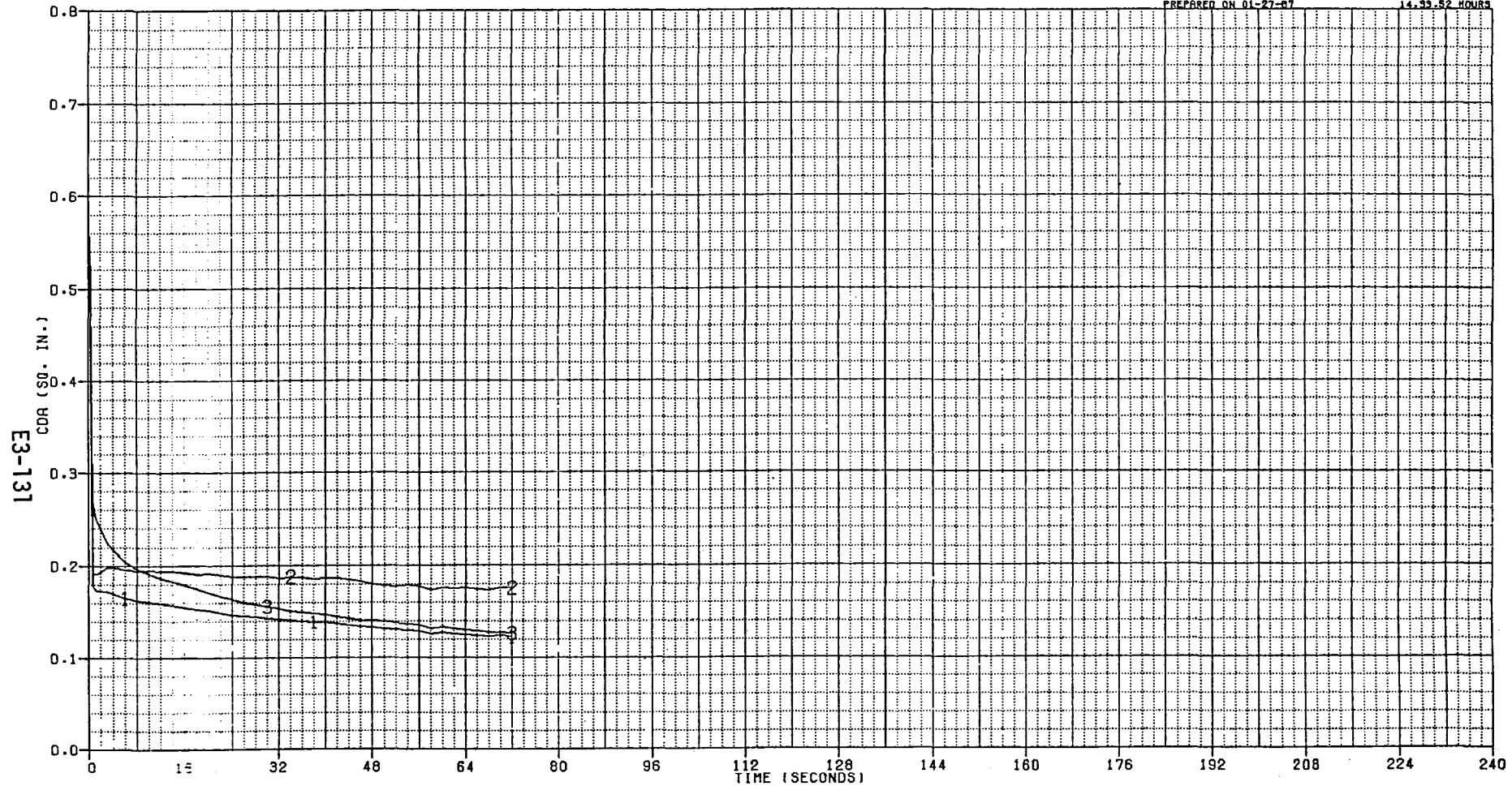


- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-153  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 11-19-85 1159 HOURS AVERAGED DATA

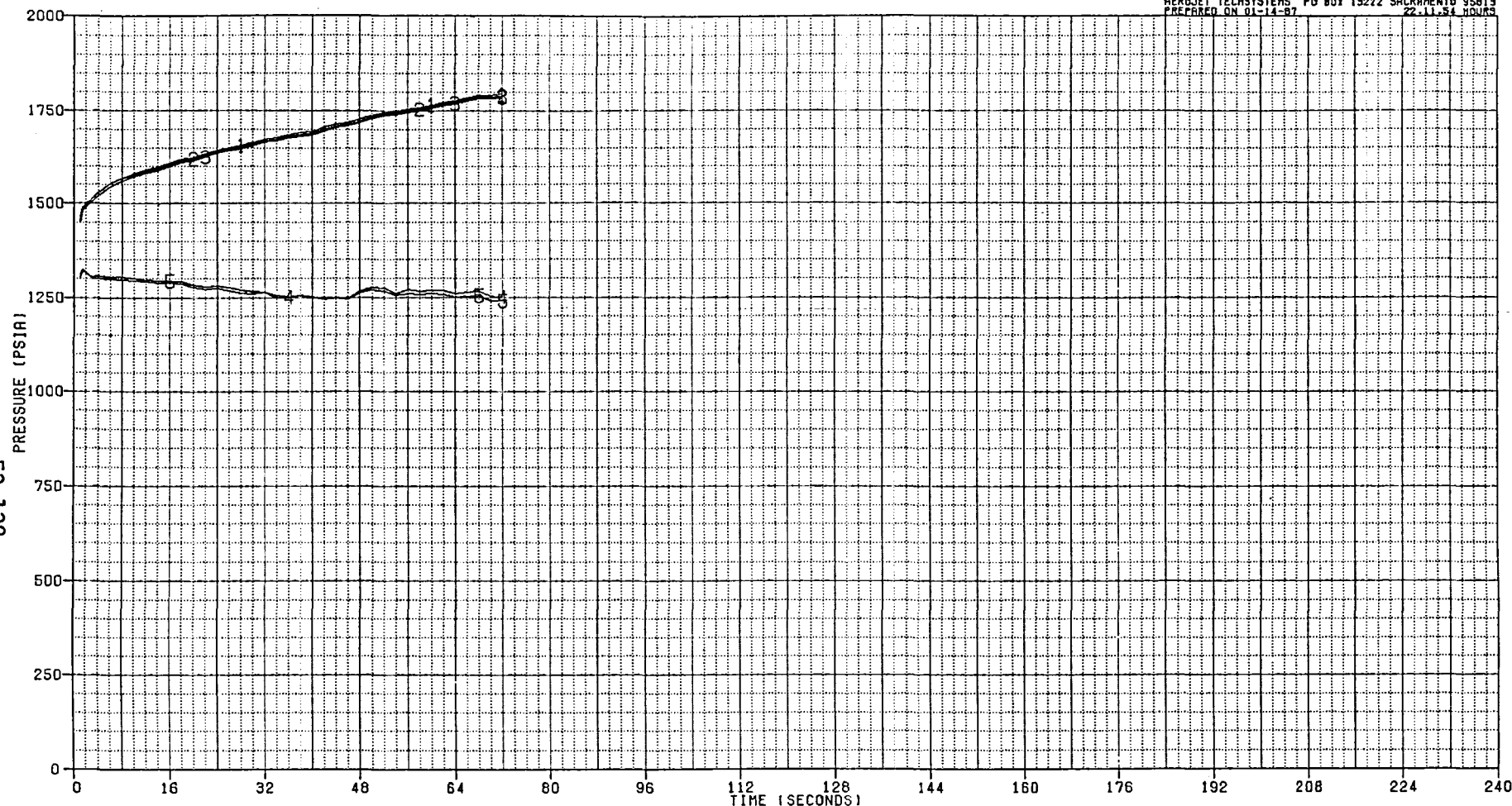


1 NA1 35. IN.  
 2 NA2 35. IN.  
 3 CDR

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-153  
 NOZZLE AREA CHANGE  
 TEST DATE 11-19-85 1159 HOURS AVERAGED DATA

E3-132

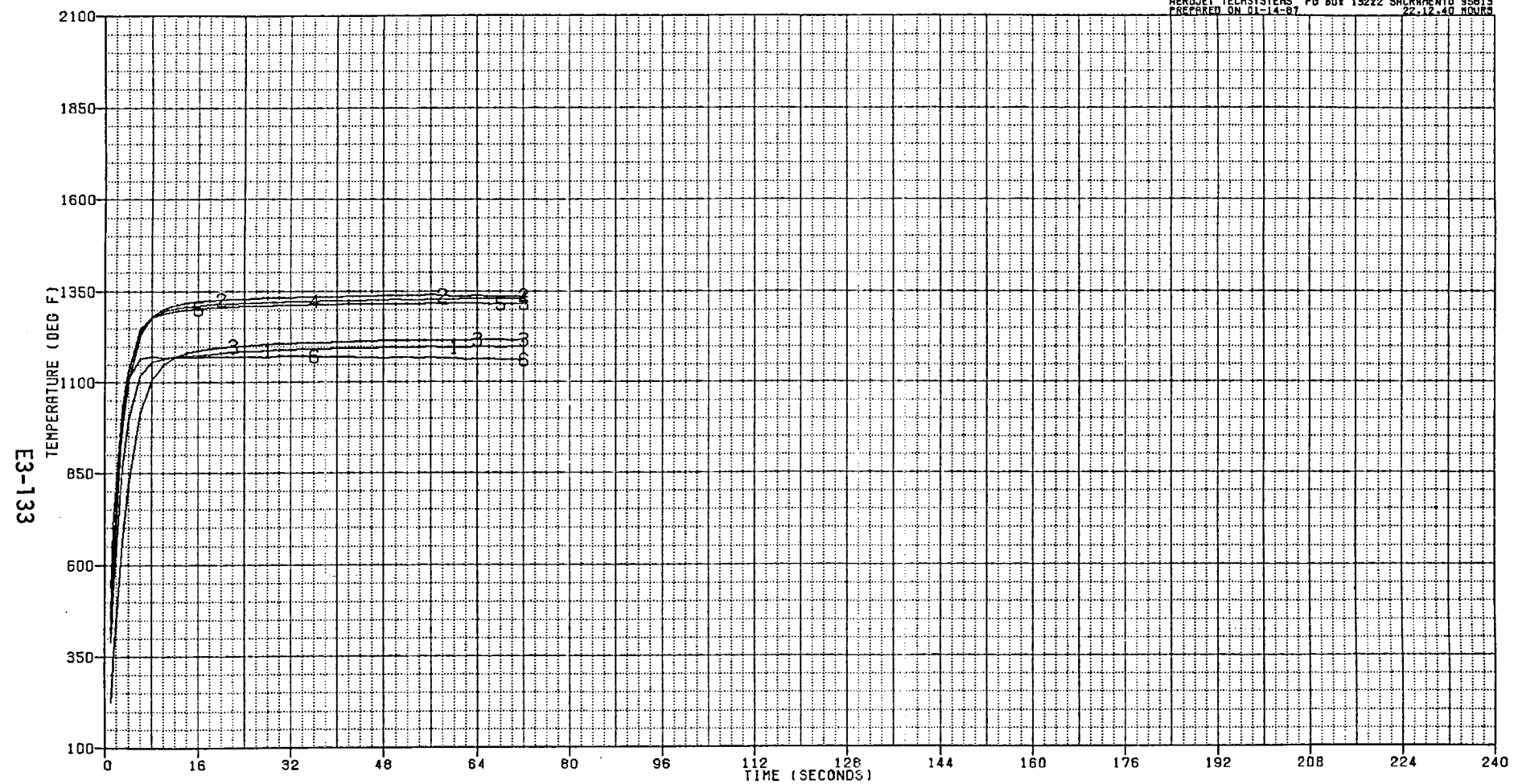
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-14-87 22.11.84 HOURS



- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



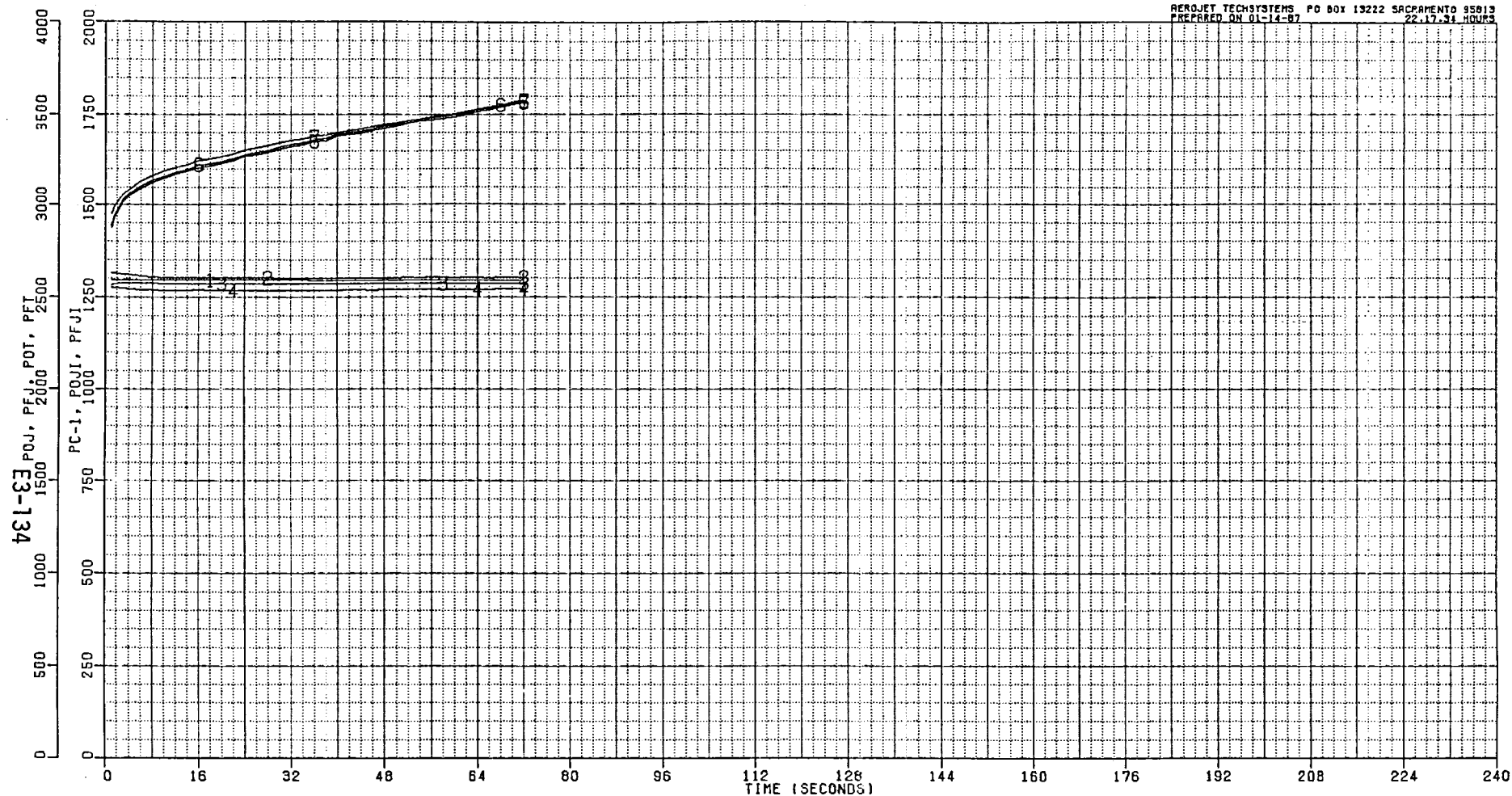
TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-153  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 1159 HOURS AVERAGED DATA



- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-153  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 1159 HOURS AVERAGED DATA



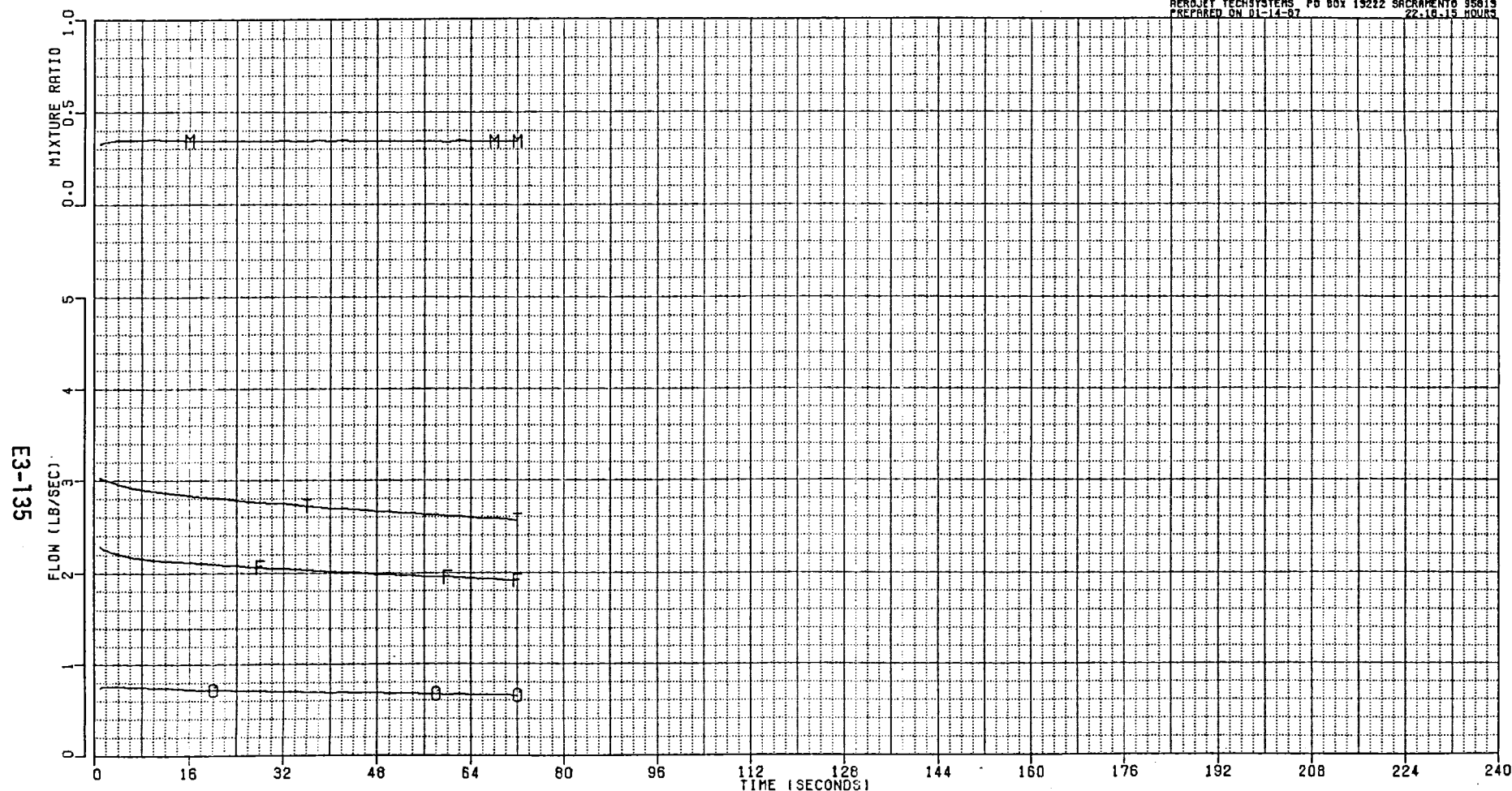
1 POT PSIA  
2 PFT PSIA  
3 POJ PSIA  
4 PFJ PSIA  
5 PC-1 PSIA  
6 POJI PSIA  
7 PFJI PSIA



MEASURED PRESSURES VS TIME  
TEST NO. 2427-936-A6-154

TEST DATE 11-19-85 2114 HOURS AVERAGED DATA



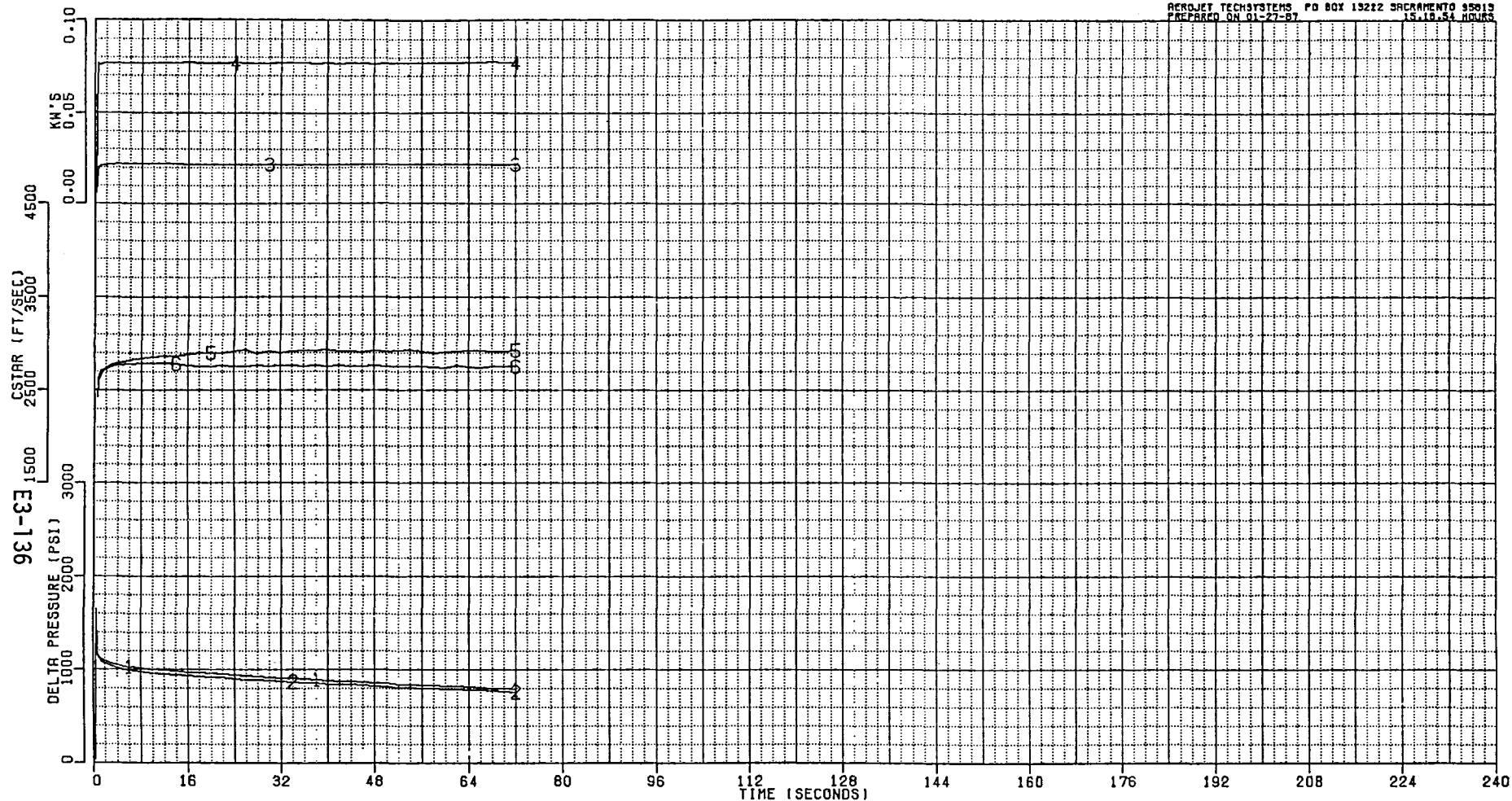


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-154

TEST DATE 11-19-85 2114 HOURS AVERAGED DATA





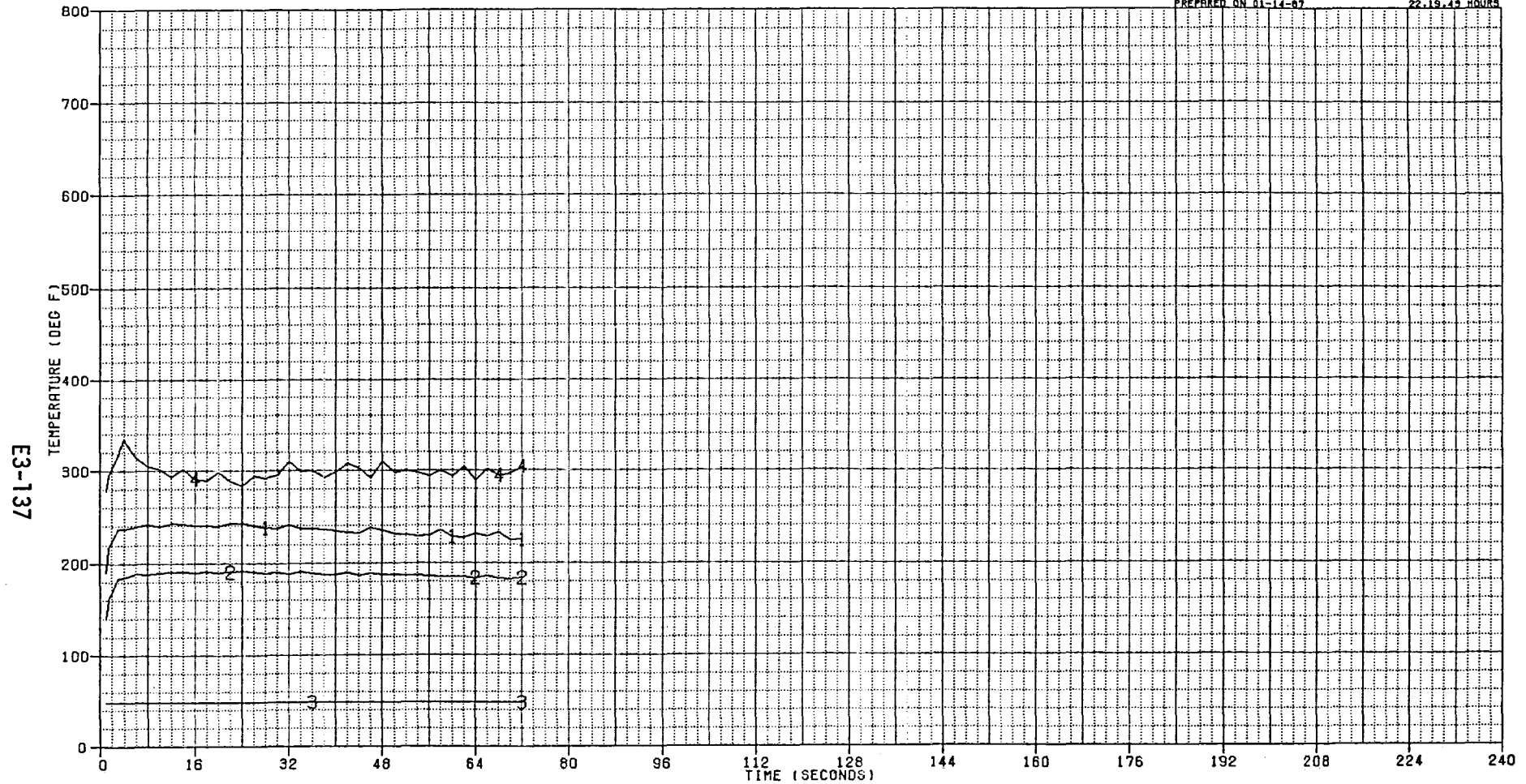
- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ PSI
- 4 KWFJ
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC



INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-154

TEST DATE 11-19-85 2114 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS PD BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-14-87 22:19:43 HOURS

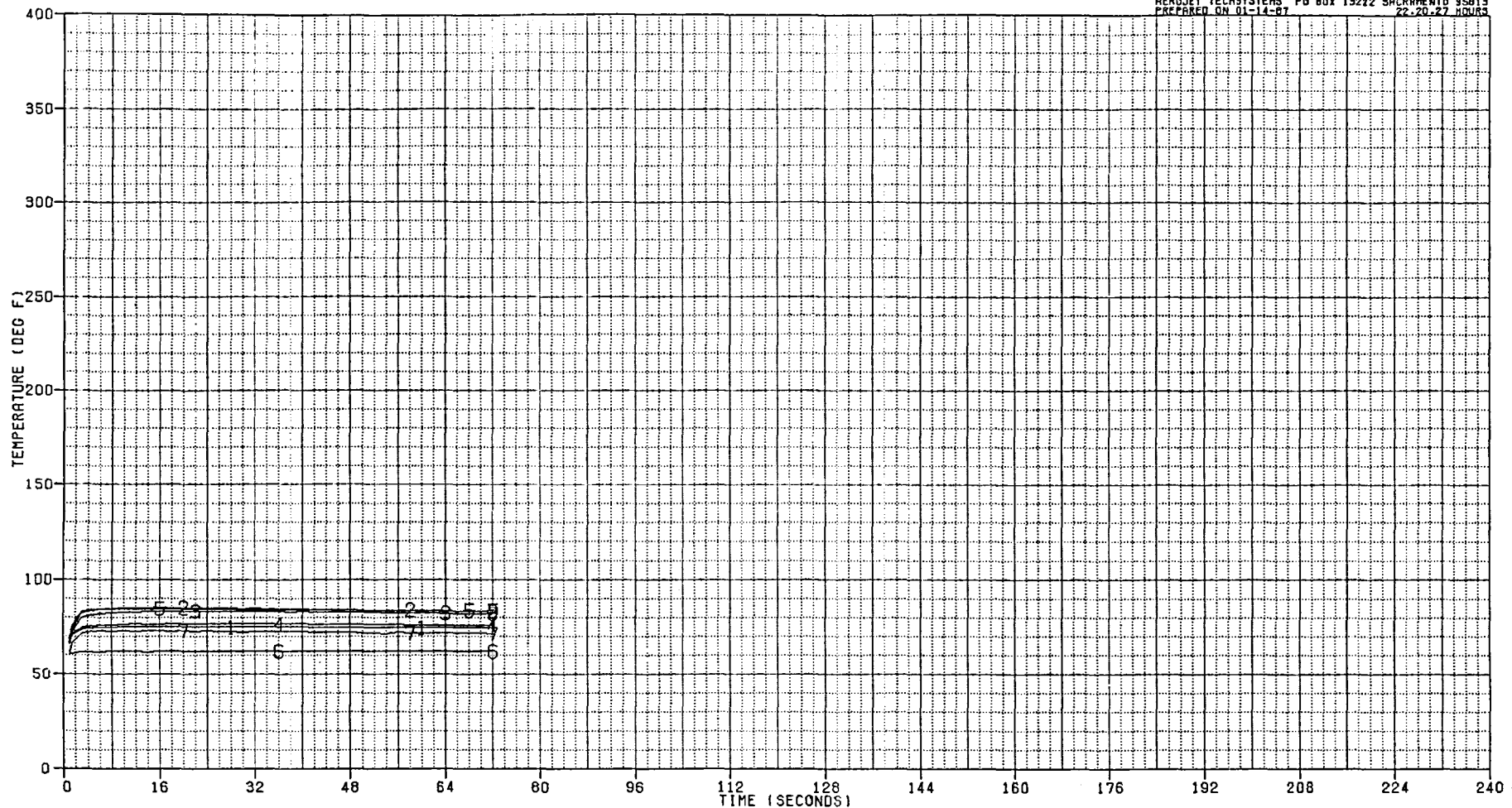


1 TC-7 DEG F  
2 TC-10 DEG F  
3 TC-11 DEG F  
4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-154  
BARREL DATA  
TEST DATE 11-19-85 2114 HOURS AVERAGED DATA

AEROJET  
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COMPANY

E3-138

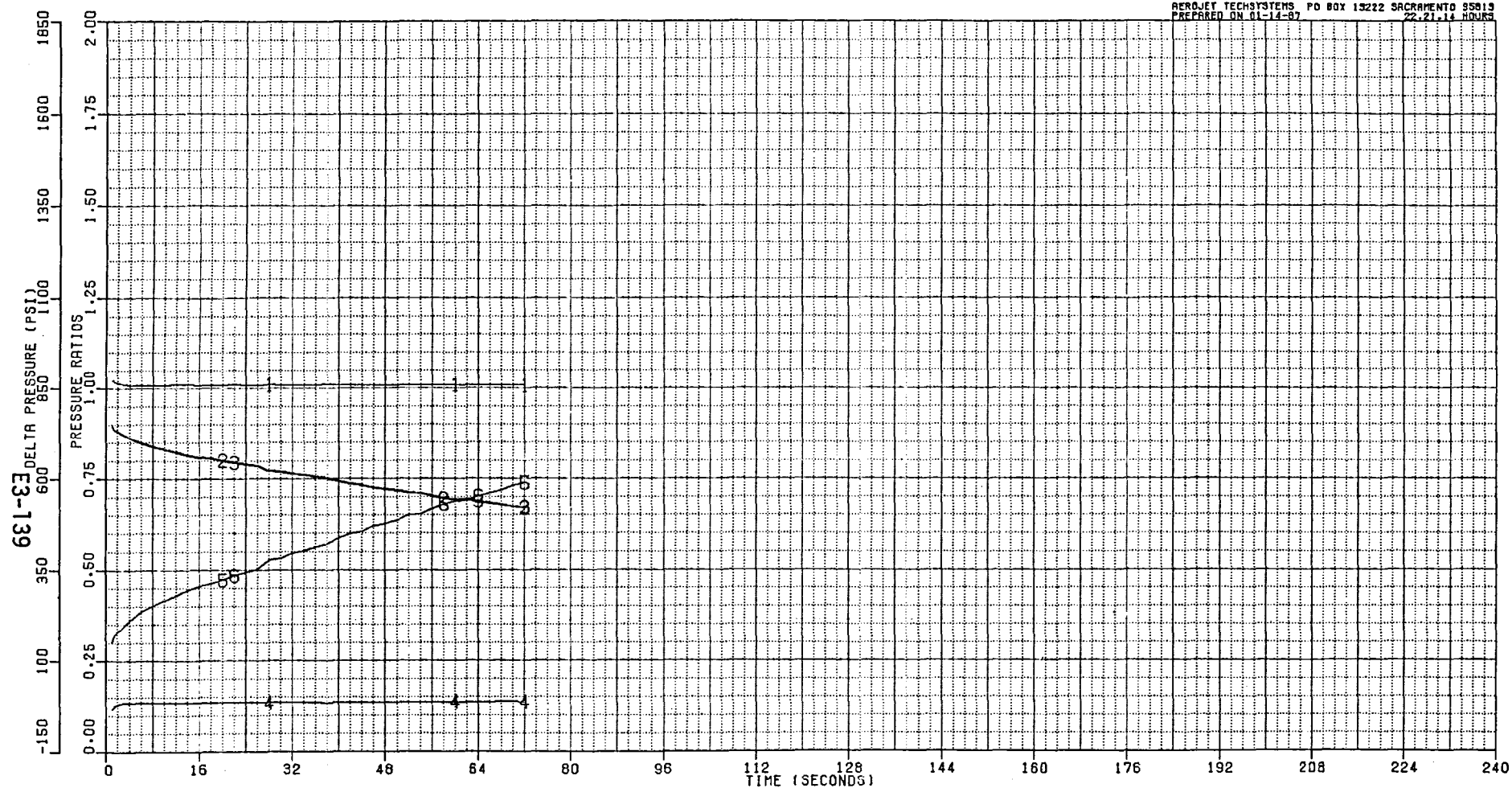


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F



COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-154

TEST DATE 11-19-85 2114 HOURS AVERAGED DATA

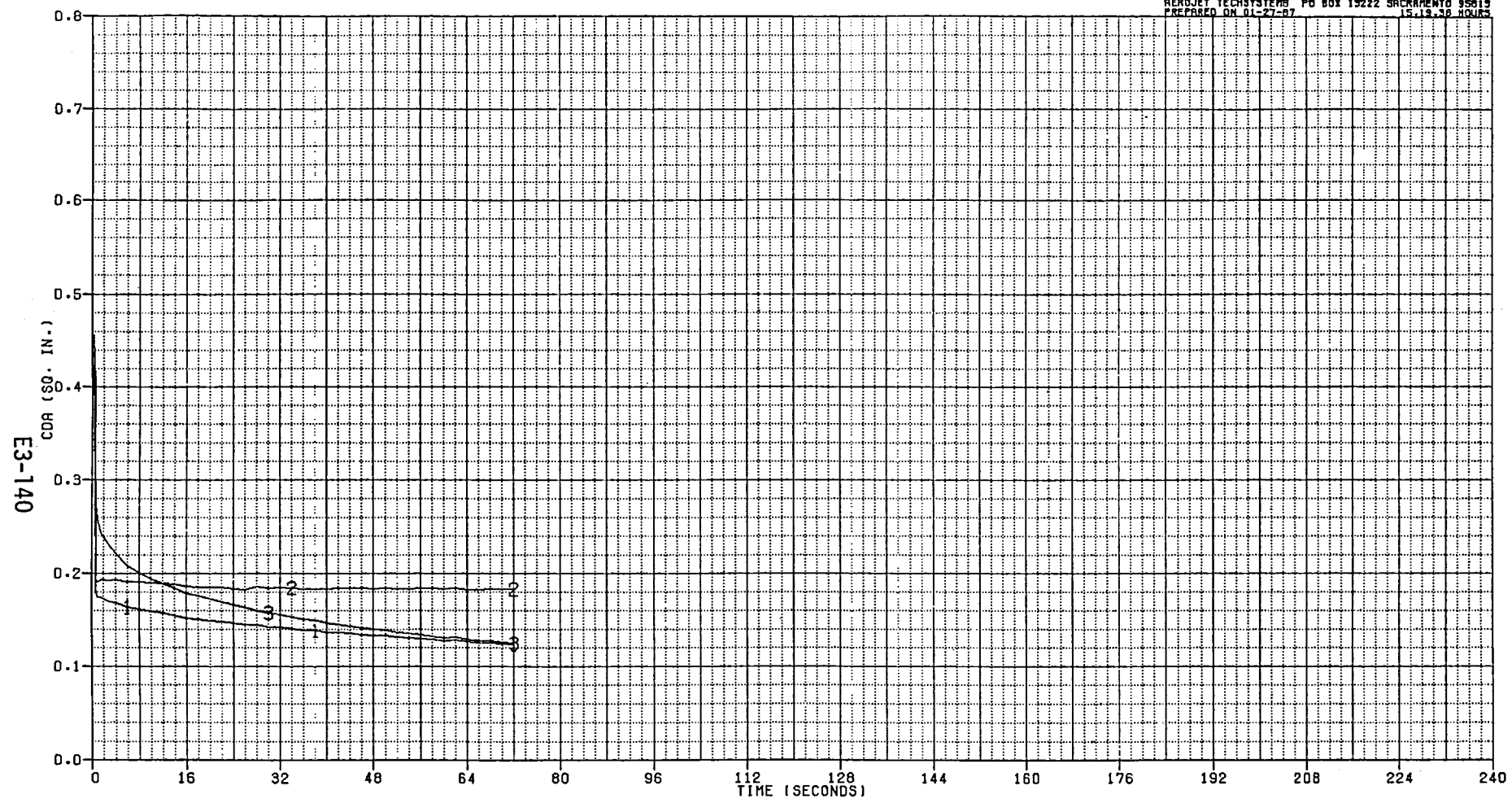


AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-14-87 22:21:14 HOURS

- 1 PRTR
- 2 PRS
- 3 PRS CORR
- 4 DPTR PSI
- 5 DPTS-C PSI
- 6 DPTS PSI

AEROJET  
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COMPANY

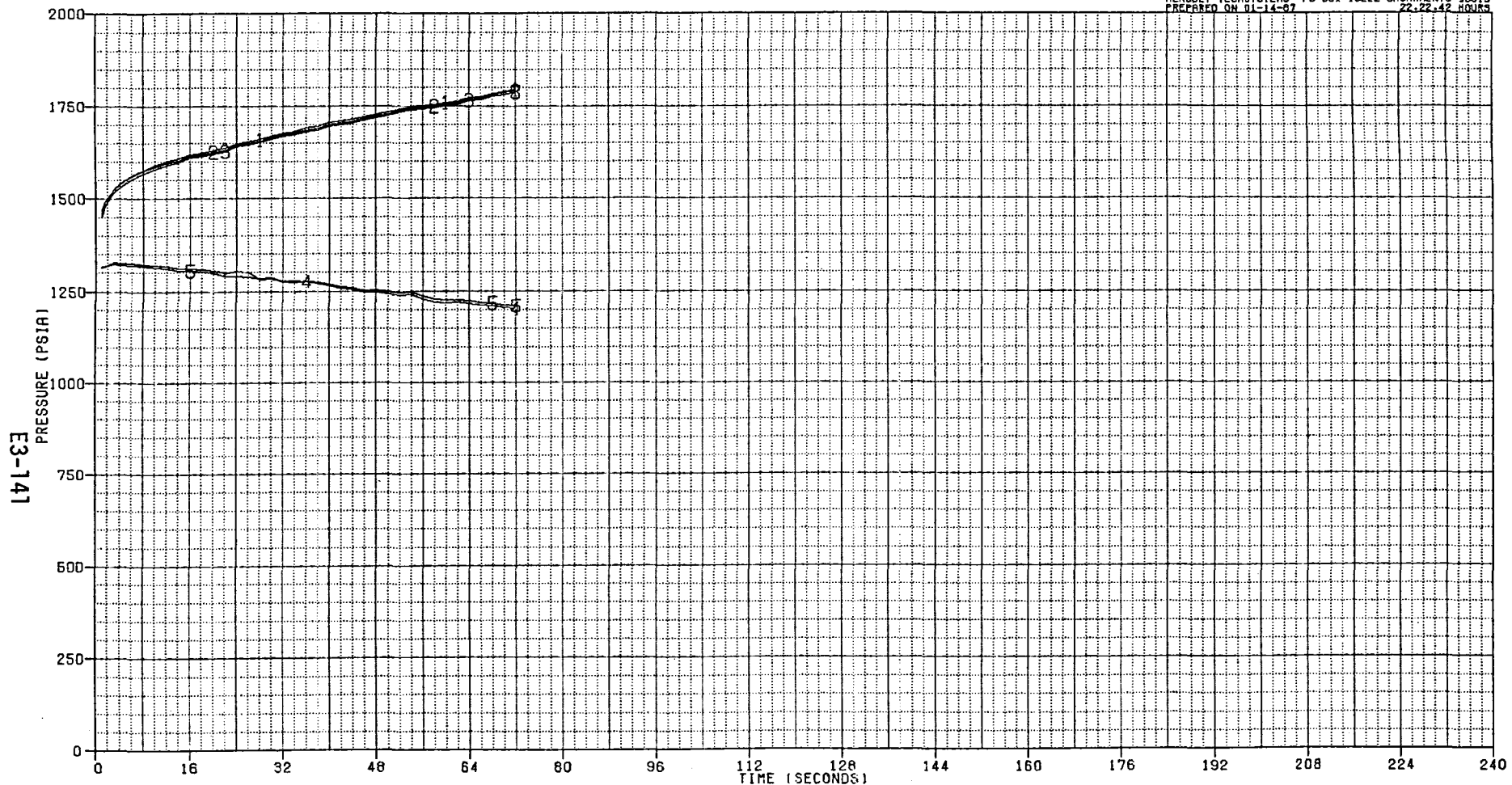
TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-154  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 11-19-85 2114 HOURS AVERAGED DATA



1 NR1 SQ.IN.  
 2 NR2 SQ.IN.  
 3 CDR

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-154  
 NOZZLE AREA CHANGE  
 TEST DATE 11-19-85 2114 HOURS AVERAGED DATA

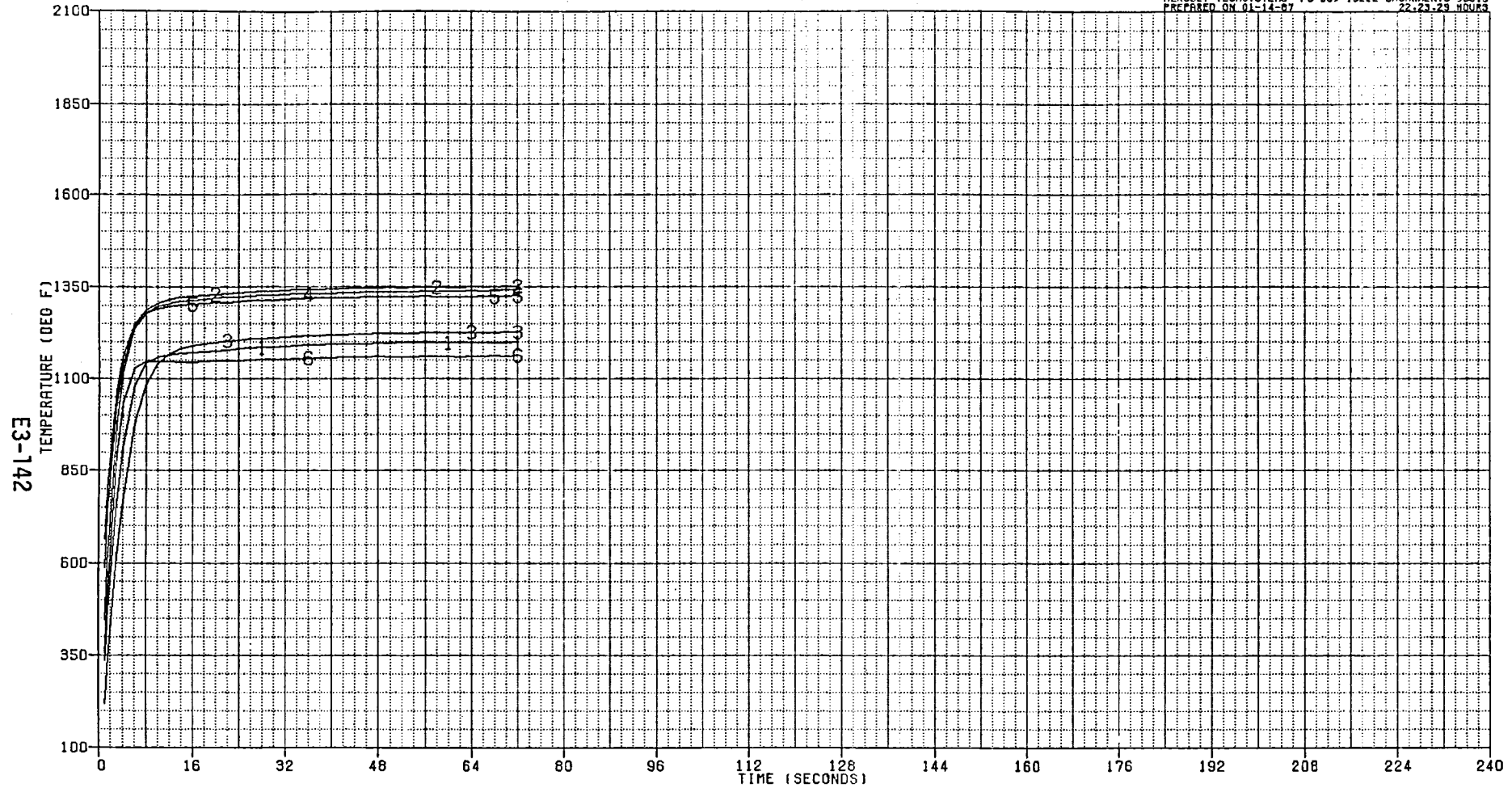




- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-154  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 2114 HOURS AVERAGED DATA



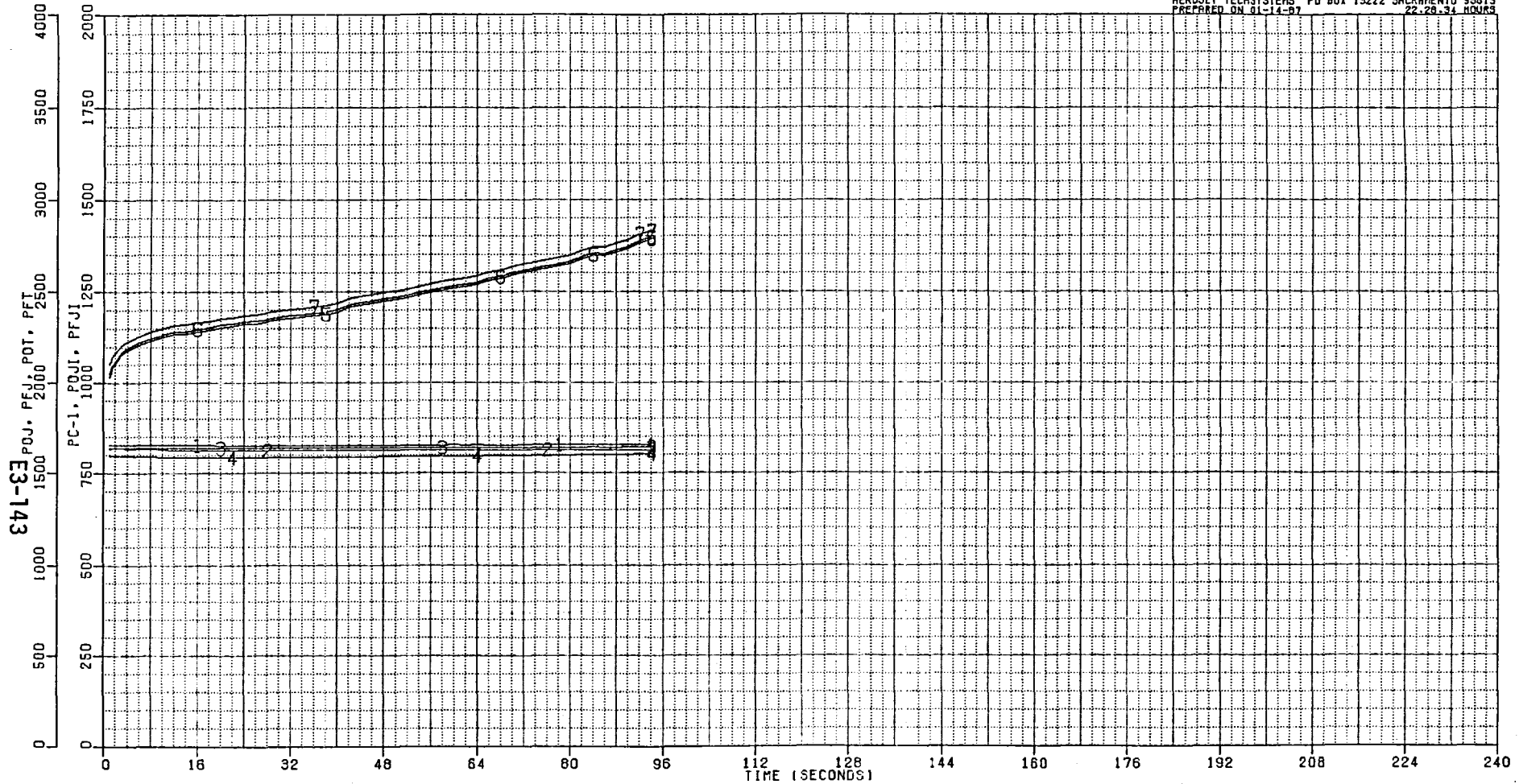
E3-142

- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-154  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 2114 HOURS AVERAGED DATA





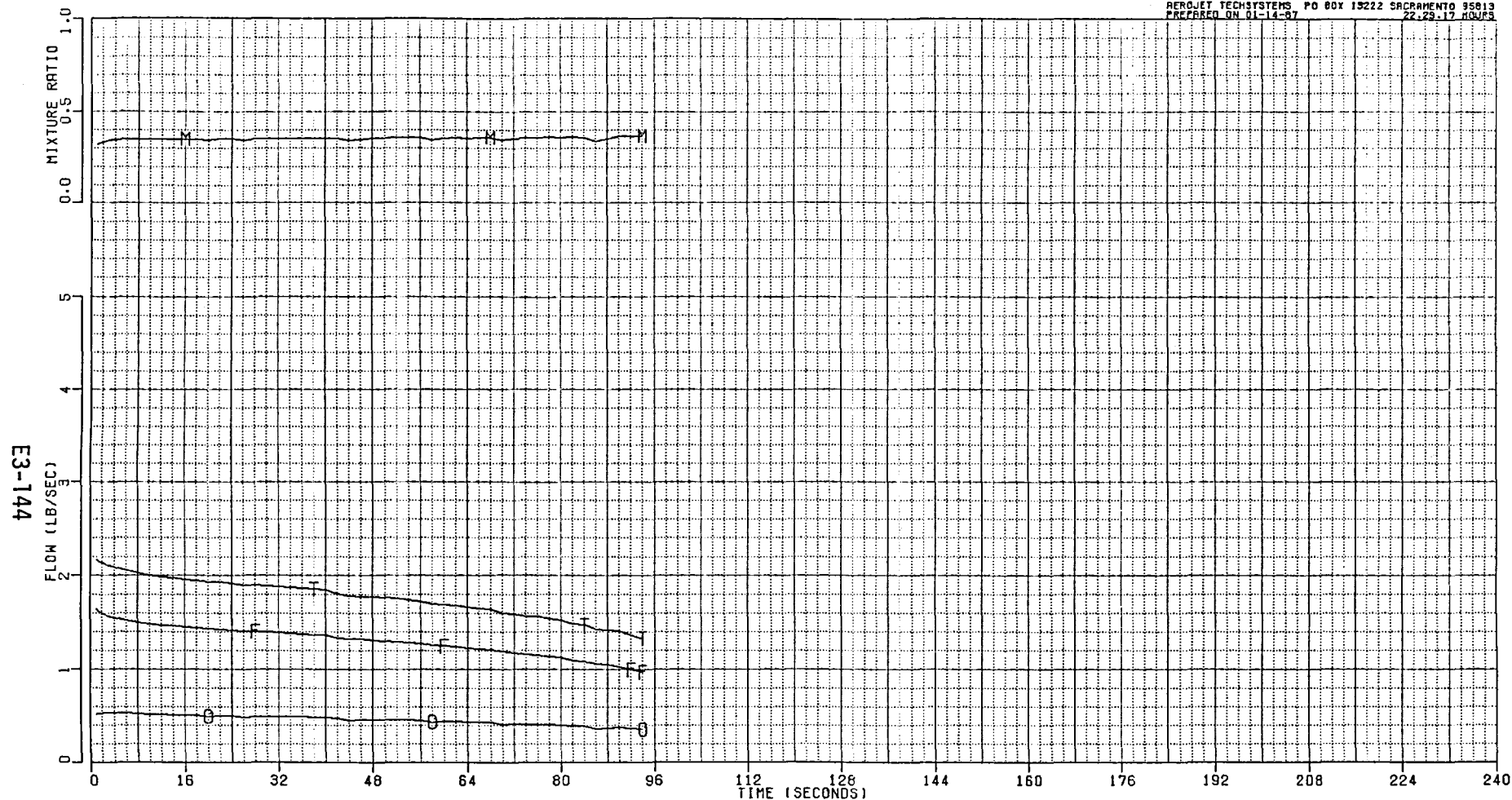
- 1 POT PSIA
- 2 PFT PSIA
- 3 POJ PSIA
- 4 PFJ PSIA
- 5 PC-1 PSIA
- 6 POJI PSIA
- 7 PFJI PSIA



MEASURED PRESSURES VS TIME  
 TEST NO. 2427-936-A6-155

TEST DATE 11-19-85 1230 HOURS AVERAGED DATA



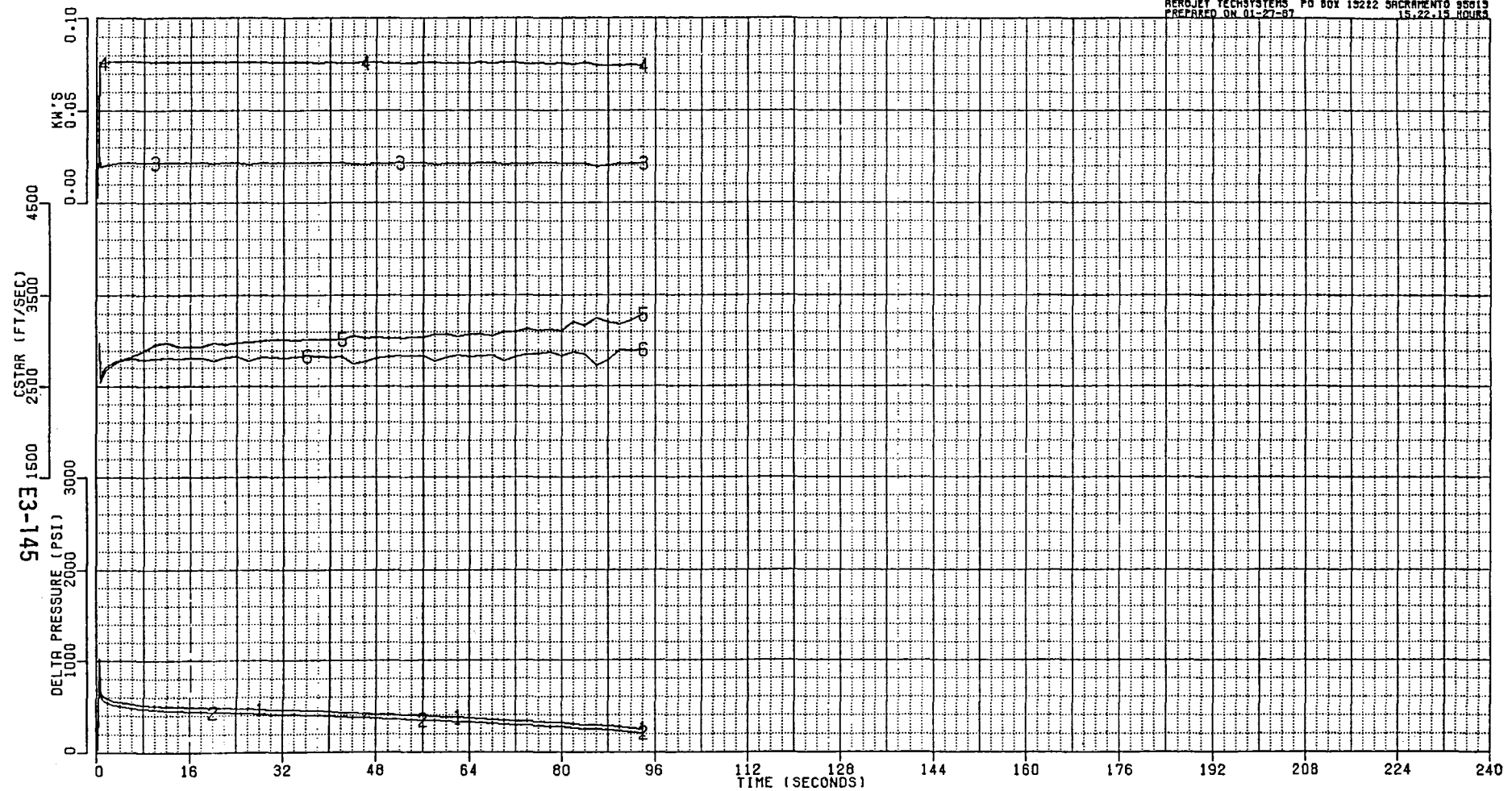


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

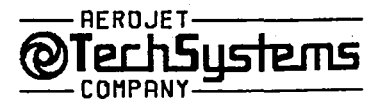
INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-155

TEST DATE 11-19-85 1230 HOURS AVERAGED DATA

AEROJET  
 @TechSystems  
 COMPANY

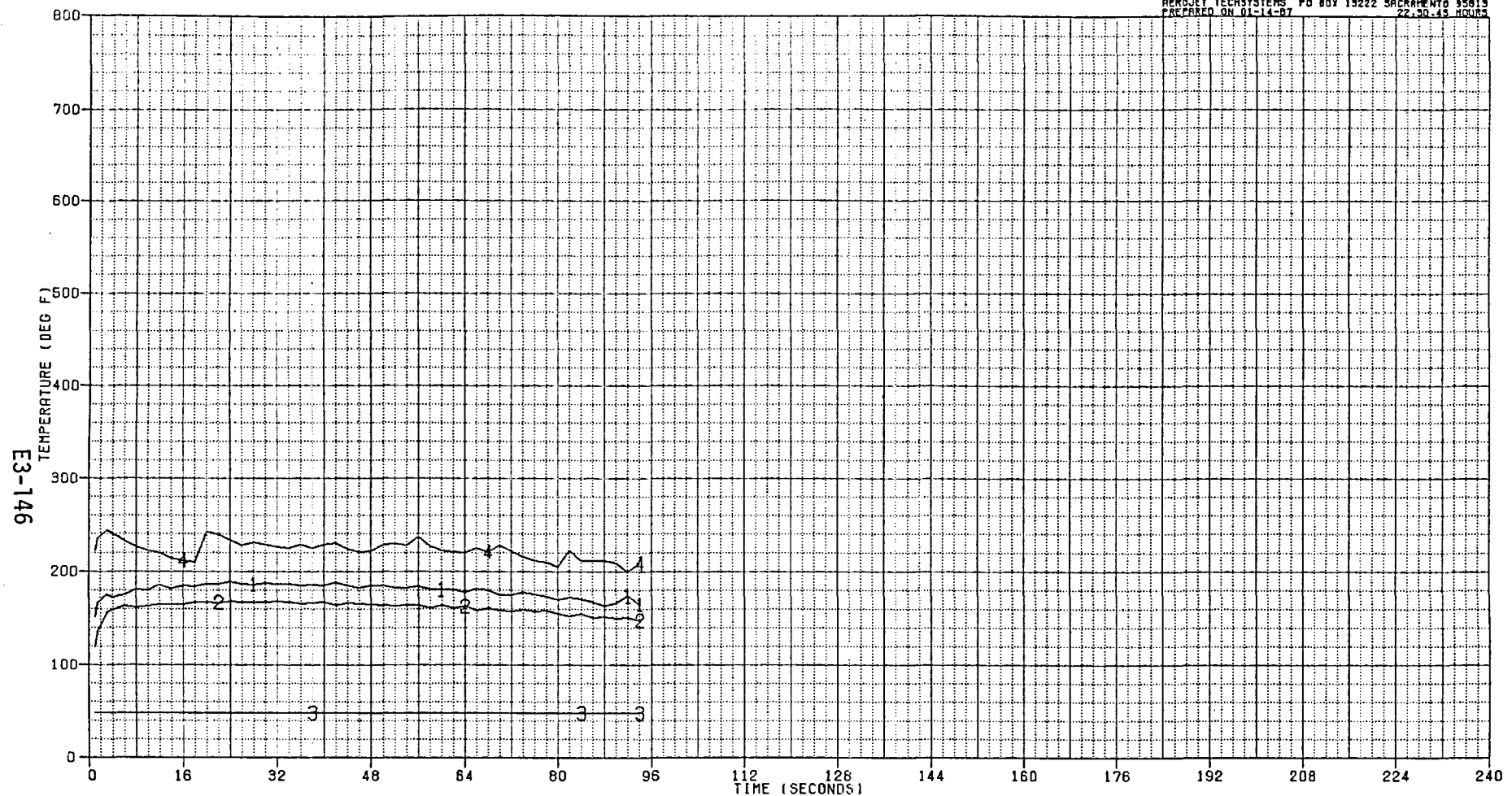


- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ PSI
- 4 KWFJ PSI
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC



# INJECTOR CALCULATIONS VS TIME TEST NO. 2427-936-A6-155

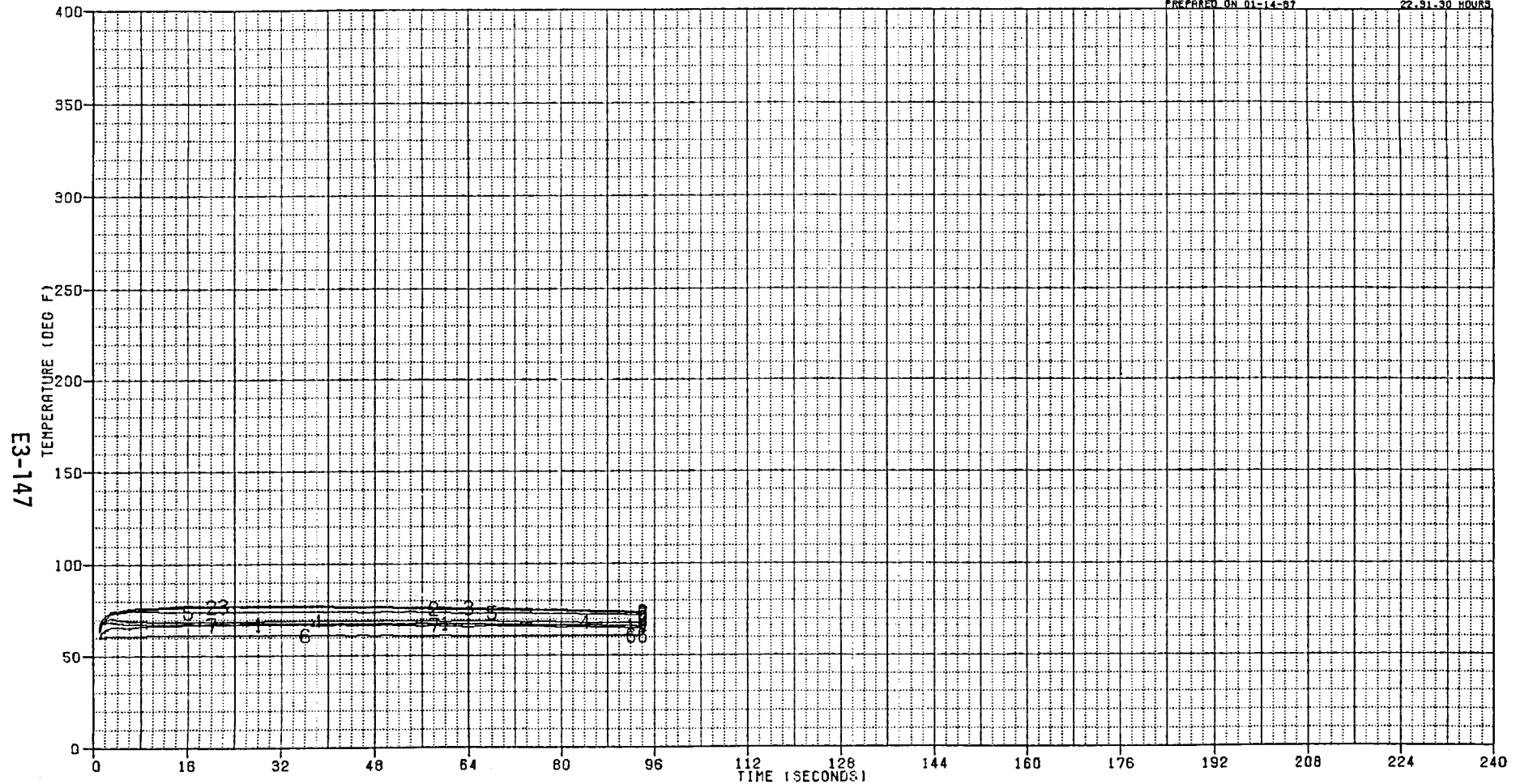
TEST DATE 11-19-85 1230 HOURS AVERAGED DATA



- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-155  
BARREL DATA  
TEST DATE 11-19-85 1230 HOURS AVERAGED DATA



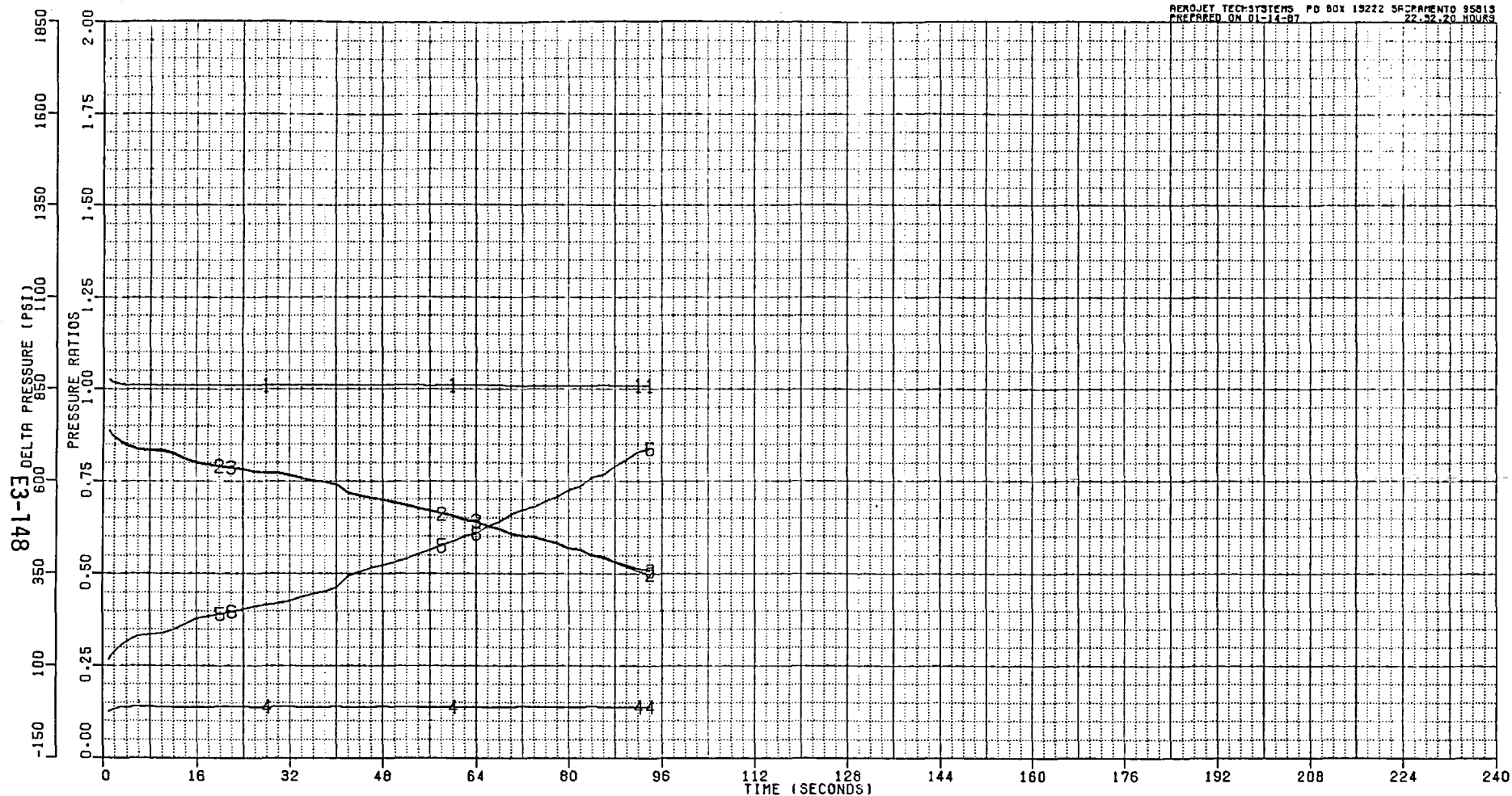


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

AEROJET  
**TechSystems**  
 COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-155

TEST DATE 11-19-85 1230 HOURS AVERAGED DATA



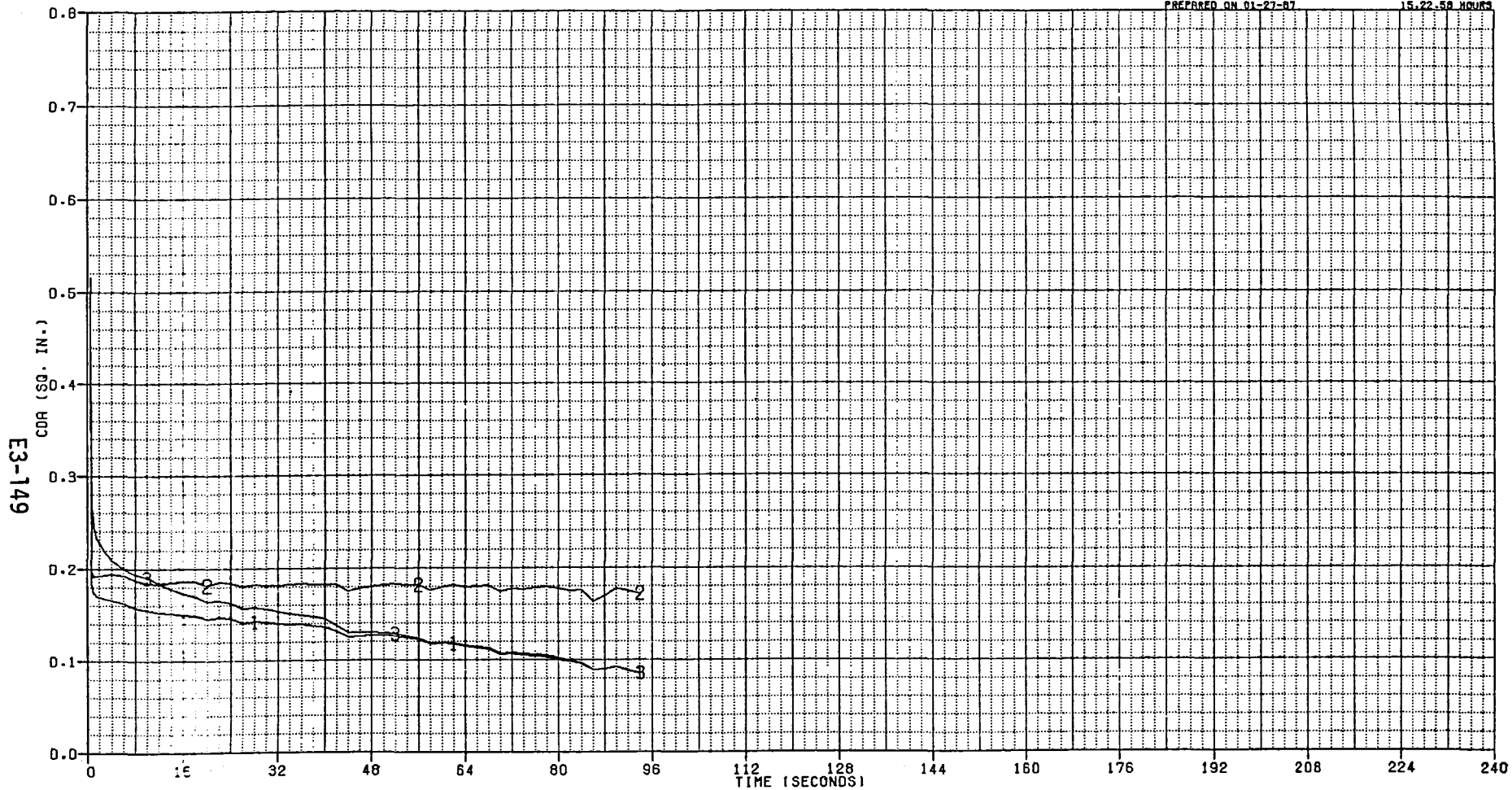
- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-155  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 11-19-85 1230 HOURS AVERAGED DATA

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-27-87 15:22:50 HOURS

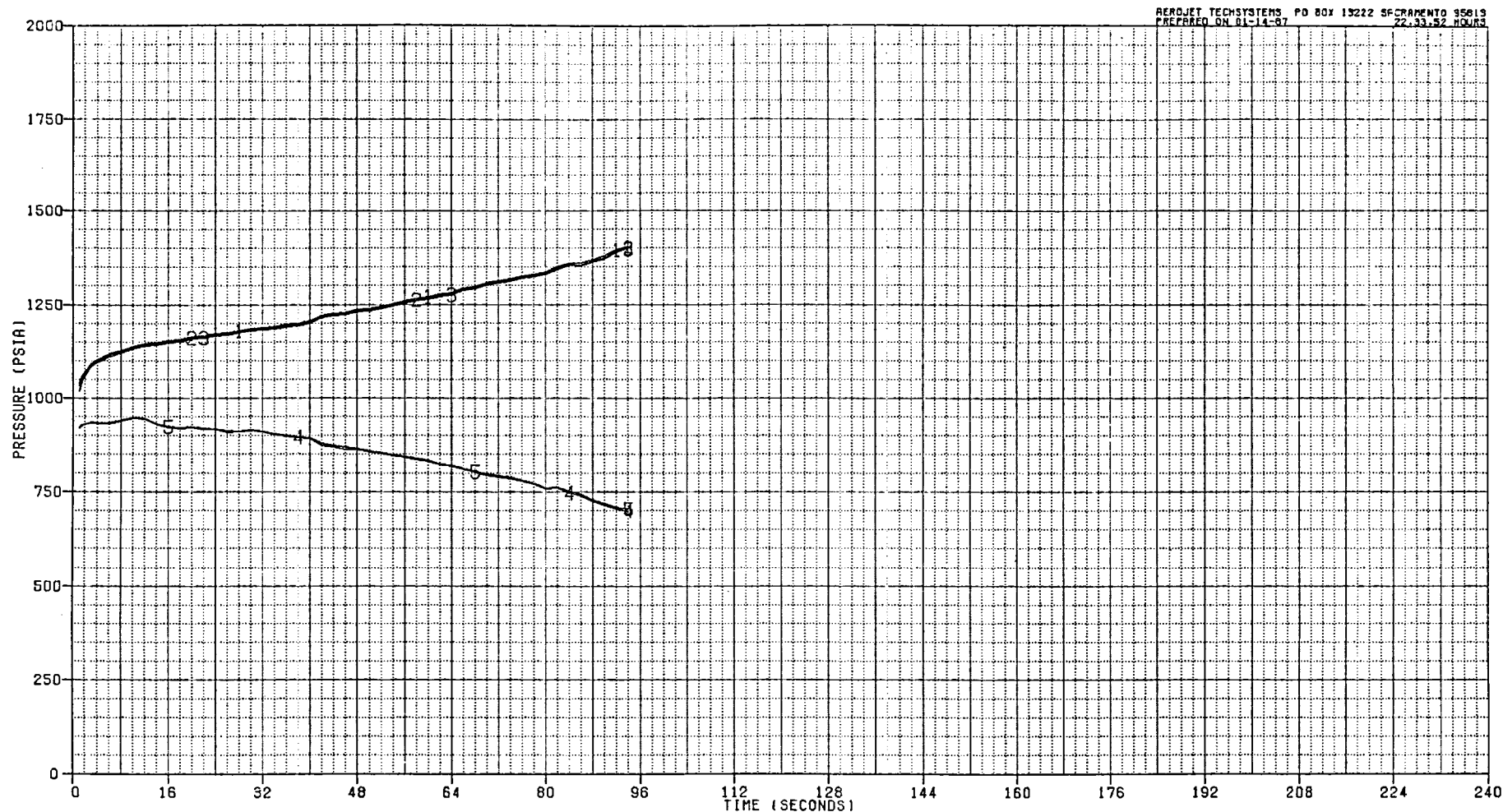


1 NA1 50.IN.  
2 NA2 50.IN.  
3 CDA

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-936-A6-155  
NOZZLE AREA CHANGE  
TEST DATE 11-19-85 1230 HOURS AVERAGED DATA



E3-150

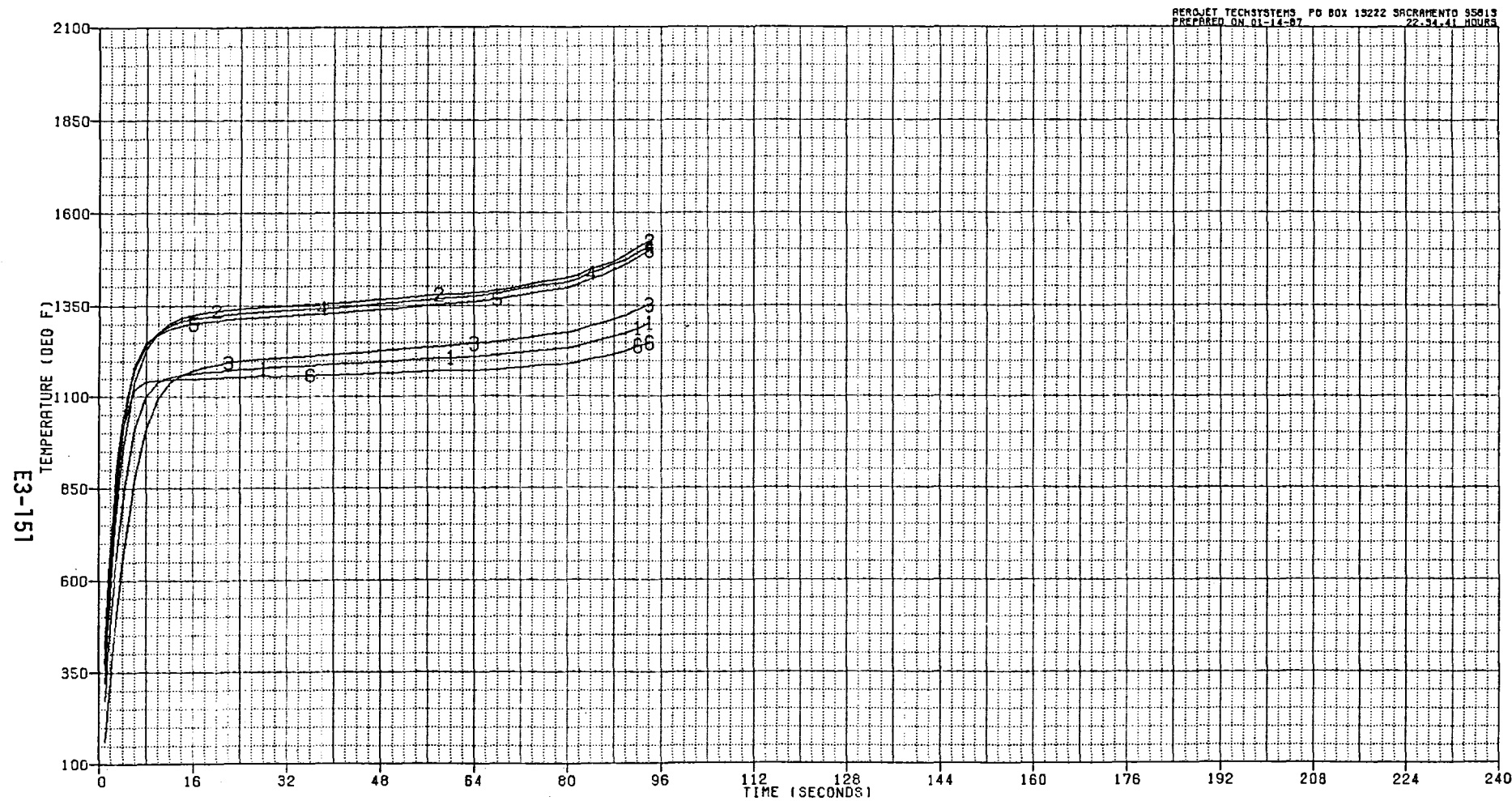


- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-155  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 1230 HOURS AVERAGED DATA





E3-151

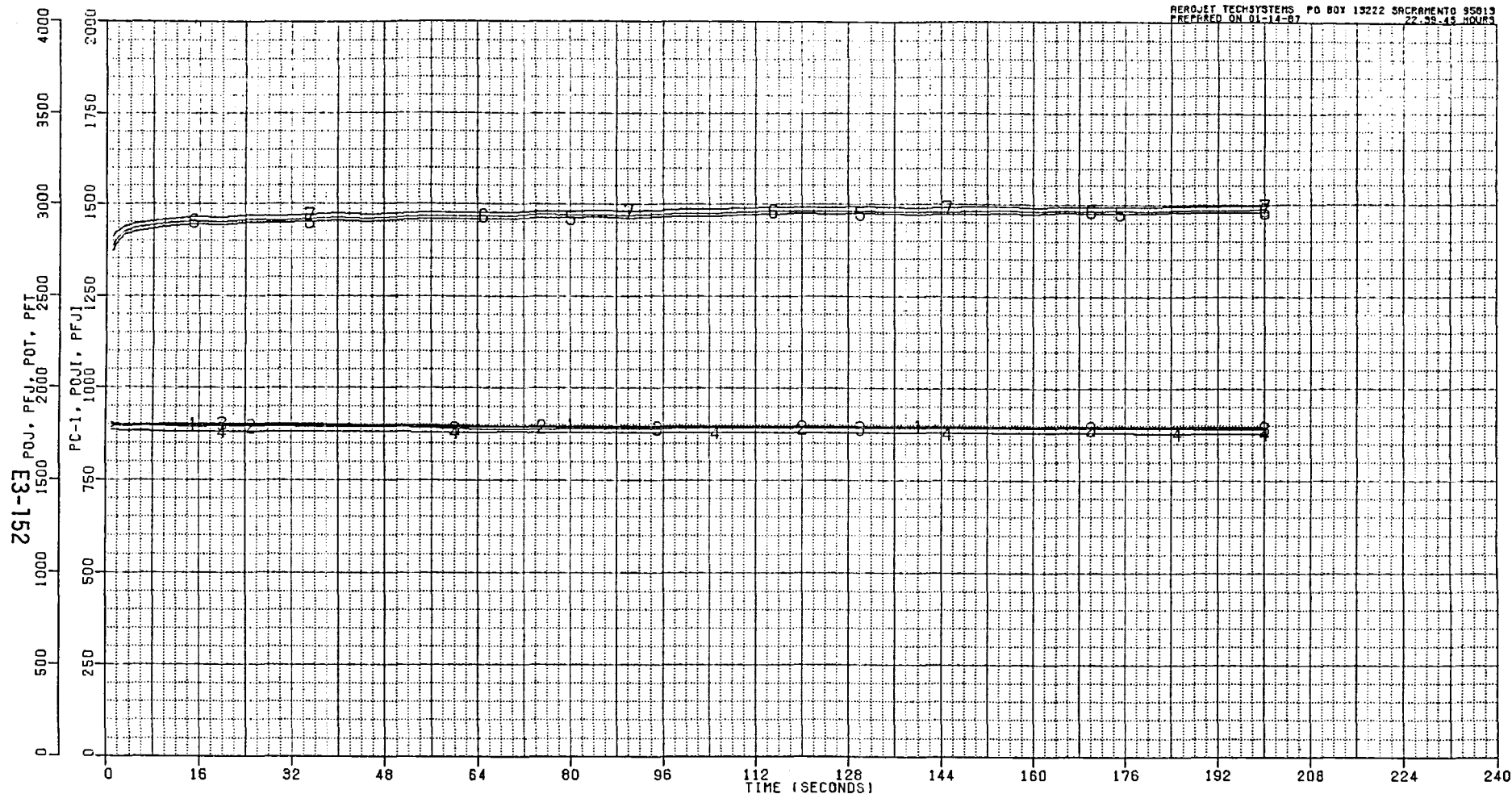
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-14-87 22:54:41 HOURS

- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-155  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 1230 HOURS AVERAGED DATA





AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-14-87 22:58:45 HOURS

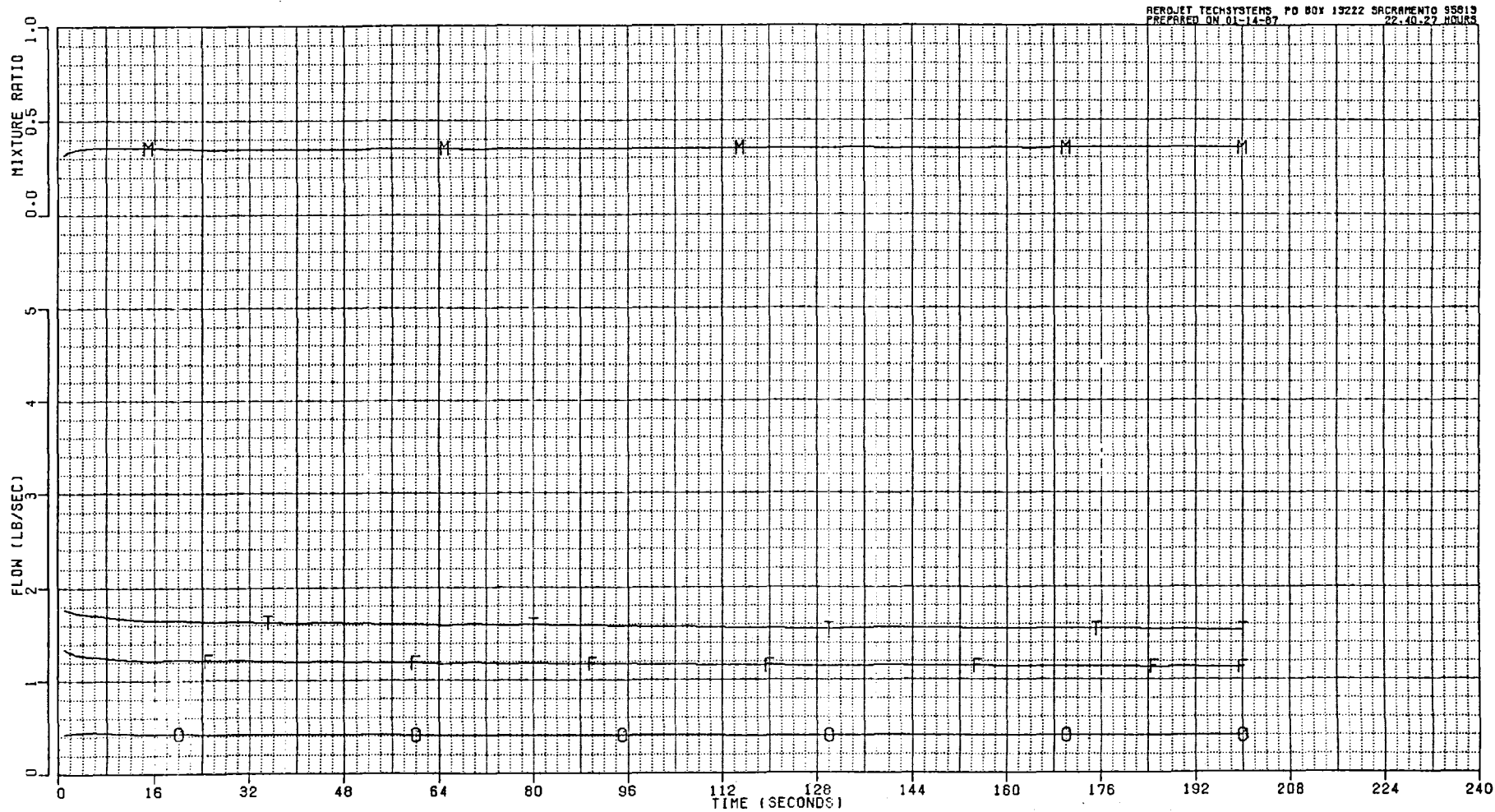
1 POT PSIA  
2 PFT PSIA  
3 POJ PSIA  
4 PFJ PSIA  
5 PC-1 PSIA  
6 POJI PSIA  
7 PFJI PSIA

AEROJET  
**TechSystems**  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-936-A6-156

TEST DATE 11-19-85 1618 HOURS AVERAGED DATA

E3-153

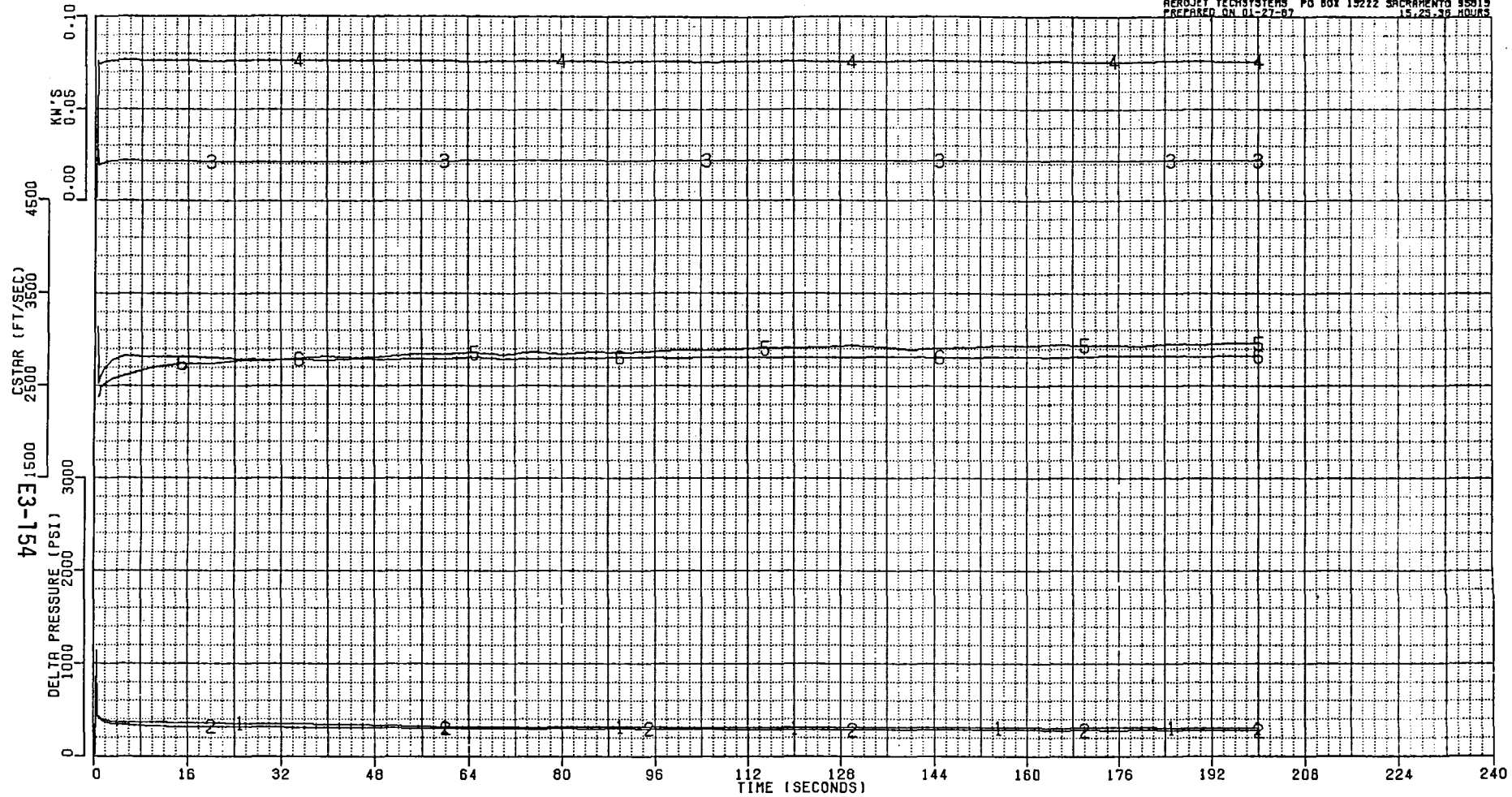


F WF LBS/SEC  
O WOX LBS/SEC  
T WTOT LBS/SEC  
M MR

INJECTOR FLOW VS TIME  
TEST NO. 2427-936-A6-156

TEST DATE 11-19-85 1618 HOURS AVERAGED DATA



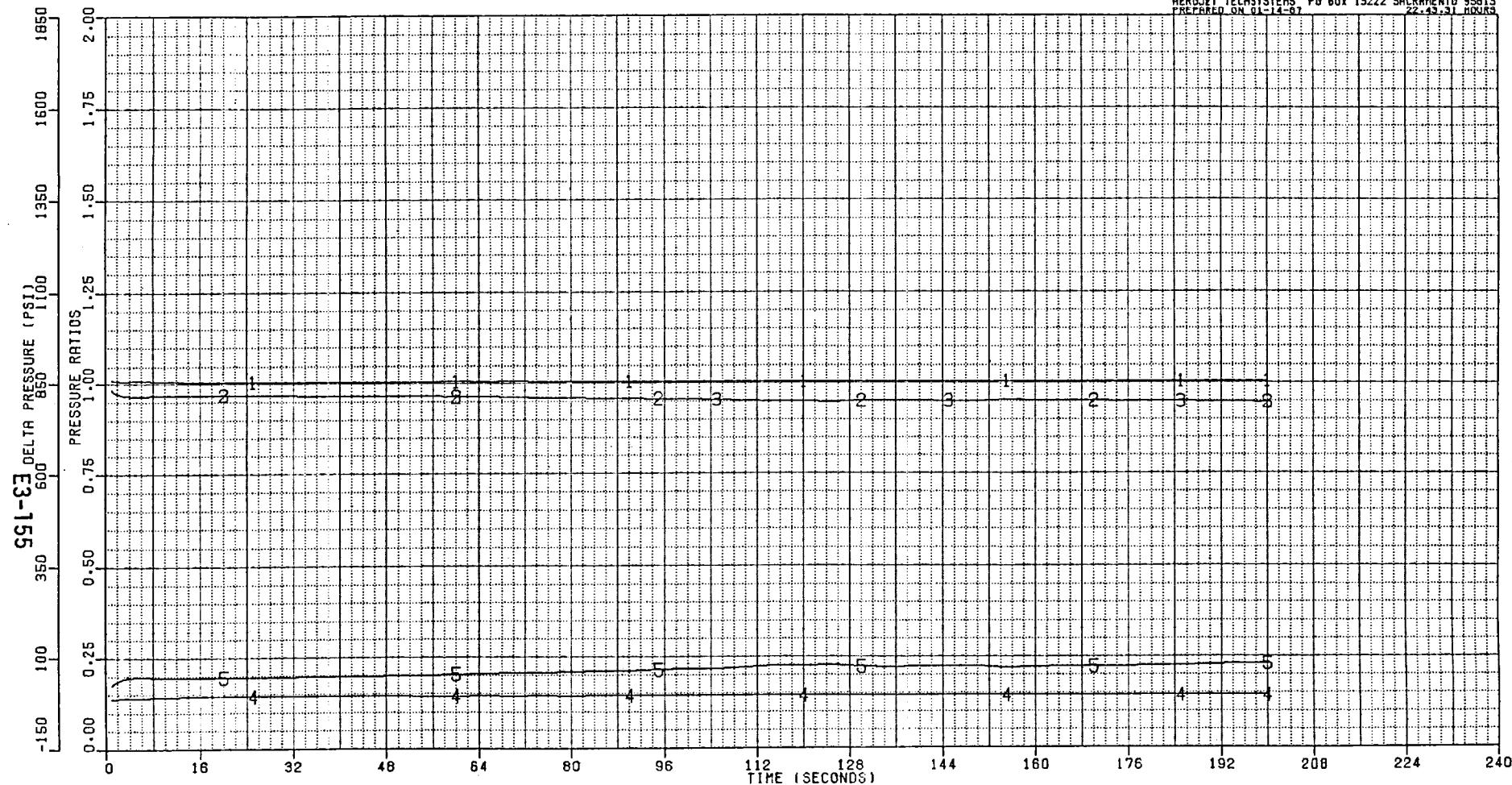


- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ PSI
- 4 KWFJ PSI
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC



INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-156

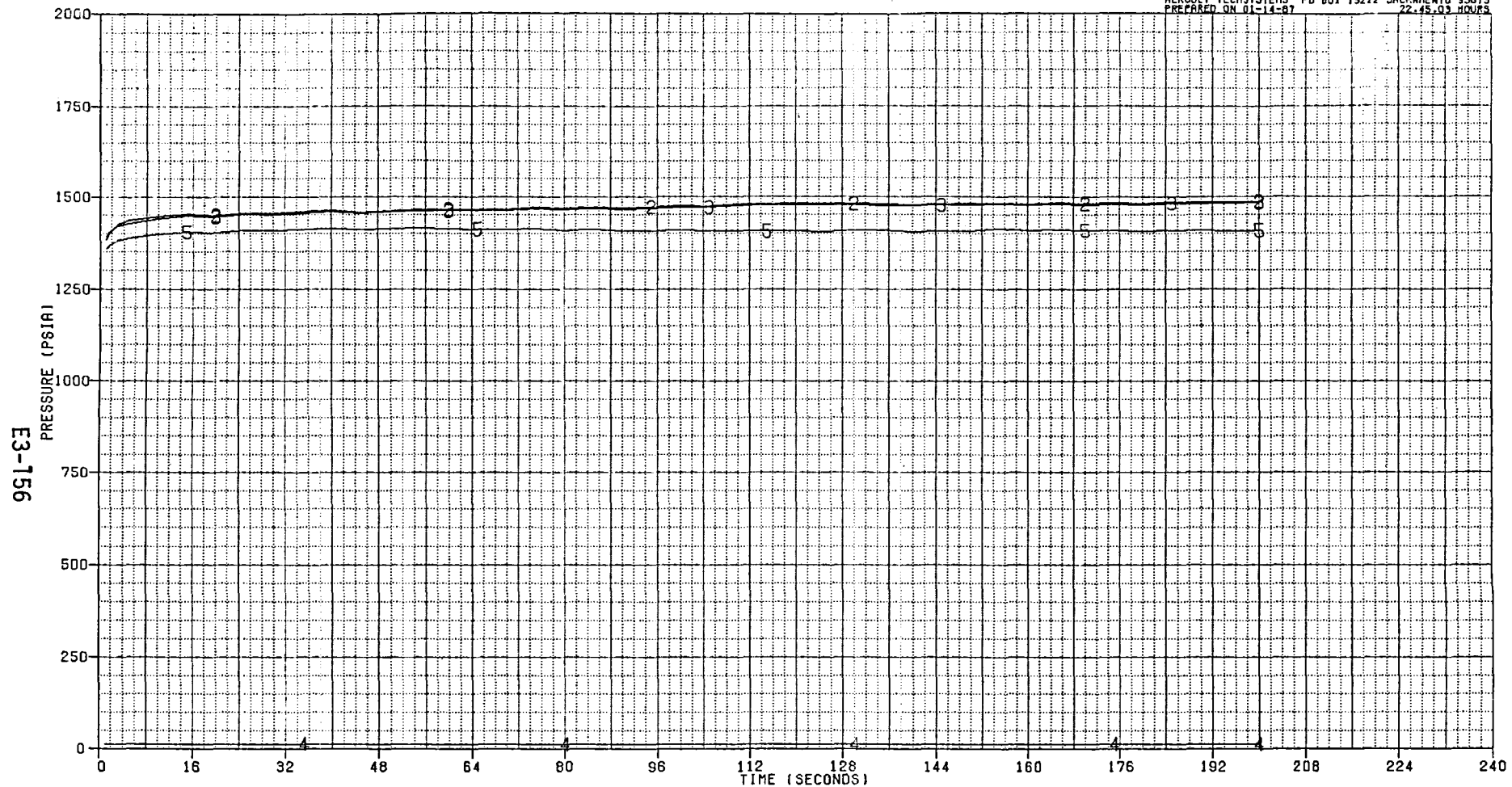
TEST DATE 11-19-85 1618 HOURS AVERAGED DATA



- 1 PRTR PSI
- 2 PRTS PSI
- 3 PRTS CORR PSI
- 4 OPTR PSI
- 5 OPTS-C PSI
- 6 OPTS PSI

AEROJET  
  
 COMPANY

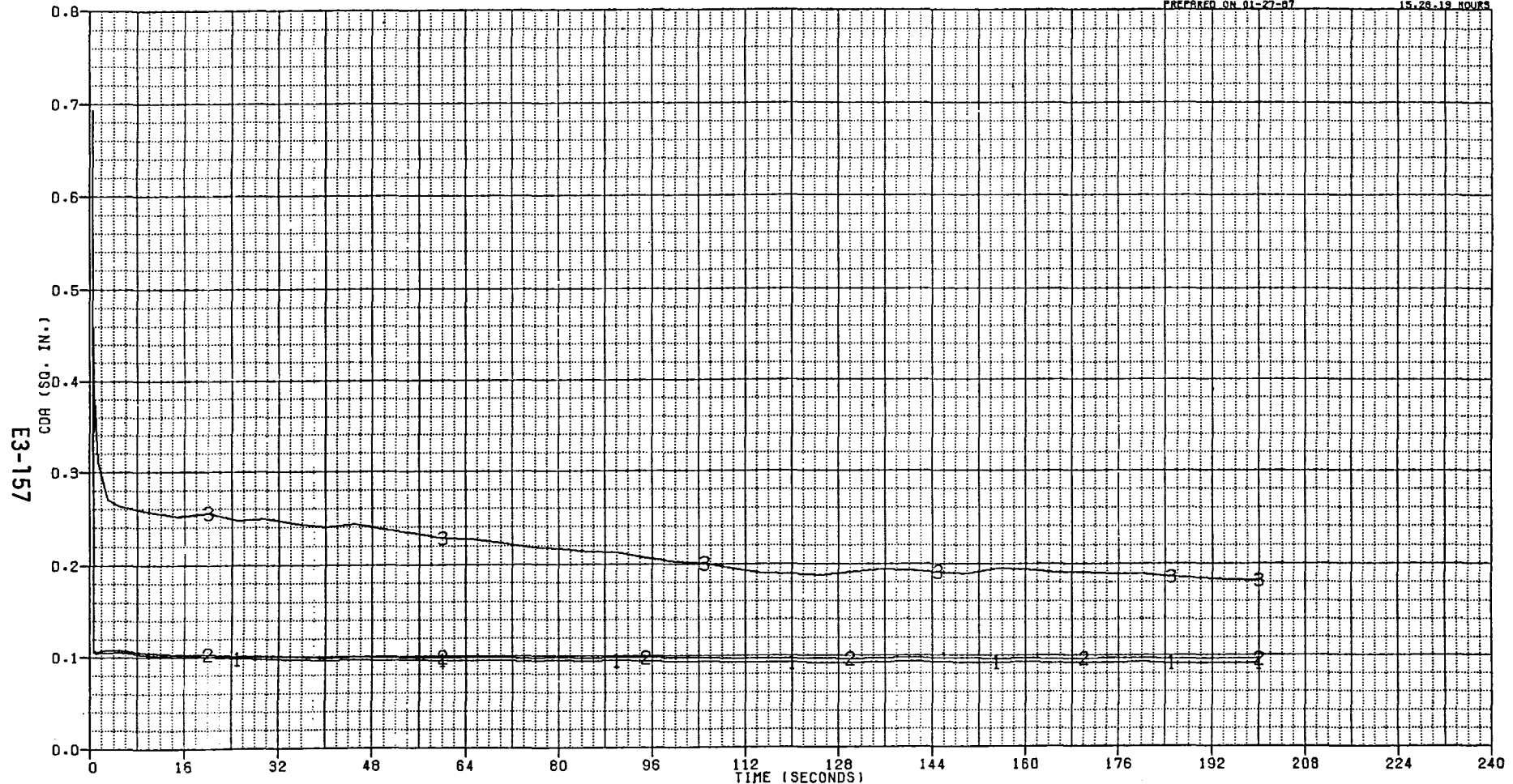
TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-156  
 CHAMBER PRESSURE DROPS AND RATIOS  
 TEST DATE 11-19-85 1618 HOURS AVERAGED DATA



1 PCTSU PSIA  
 2 PCTSU-2 PSIA  
 3 PCTSU-3 PSIA  
 4 PCTSD PSIA  
 5 PCTSD-2 PSIA

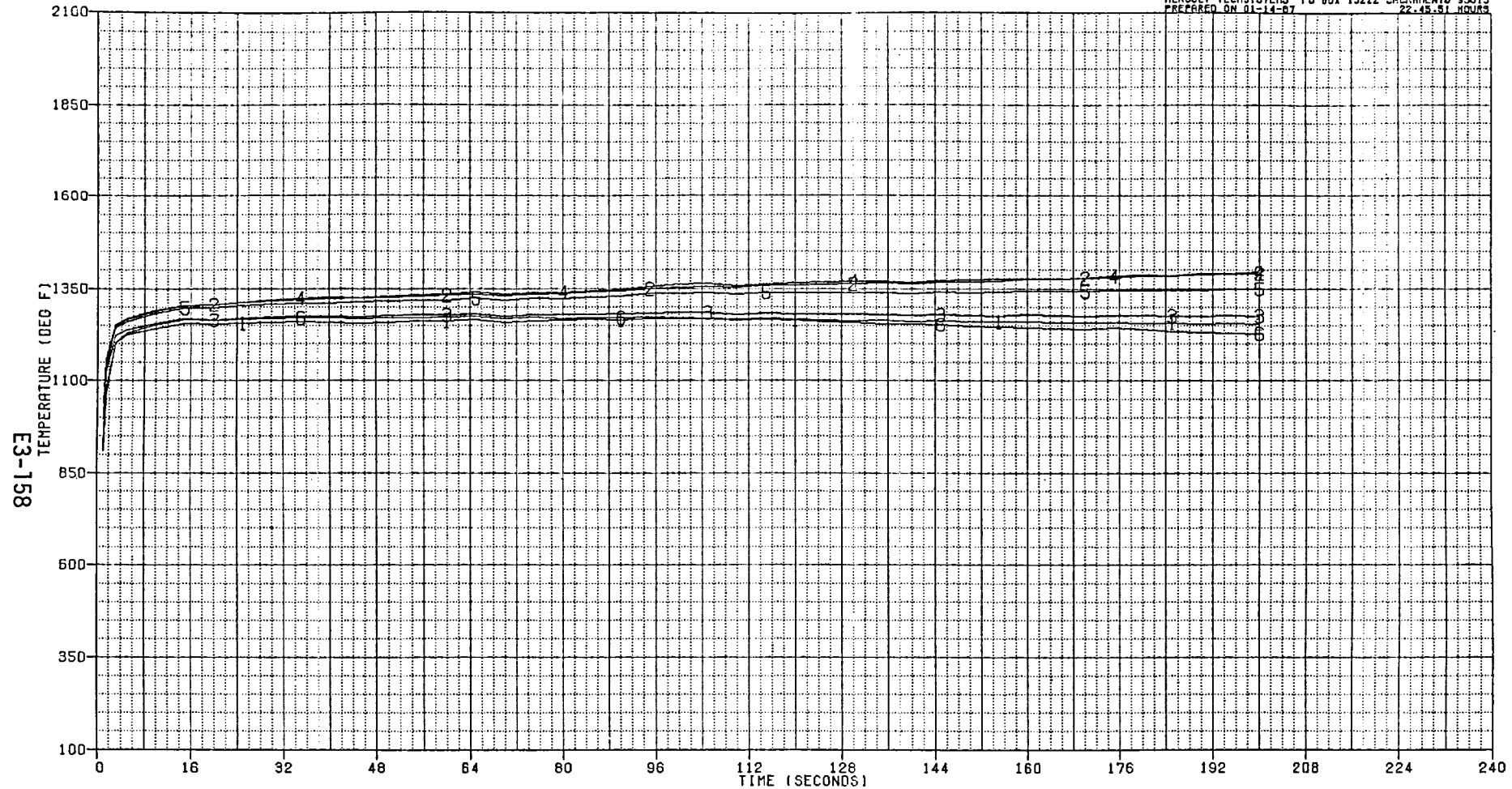
AEROJET  
**TechSystems**  
 COMPANY

**TURBINE BUILD-UP DATA VS TIME**  
**TEST NO. 2427-936-A6-156**  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 1618 HOURS AVERAGED DATA



1 NA1 50-IN.  
 2 NA2 50-IN.  
 3 COA

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-156  
 NOZZLE AREA CHANGE  
 TEST DATE 11-19-85 1618 HOURS AVERAGED DATA



E3-158

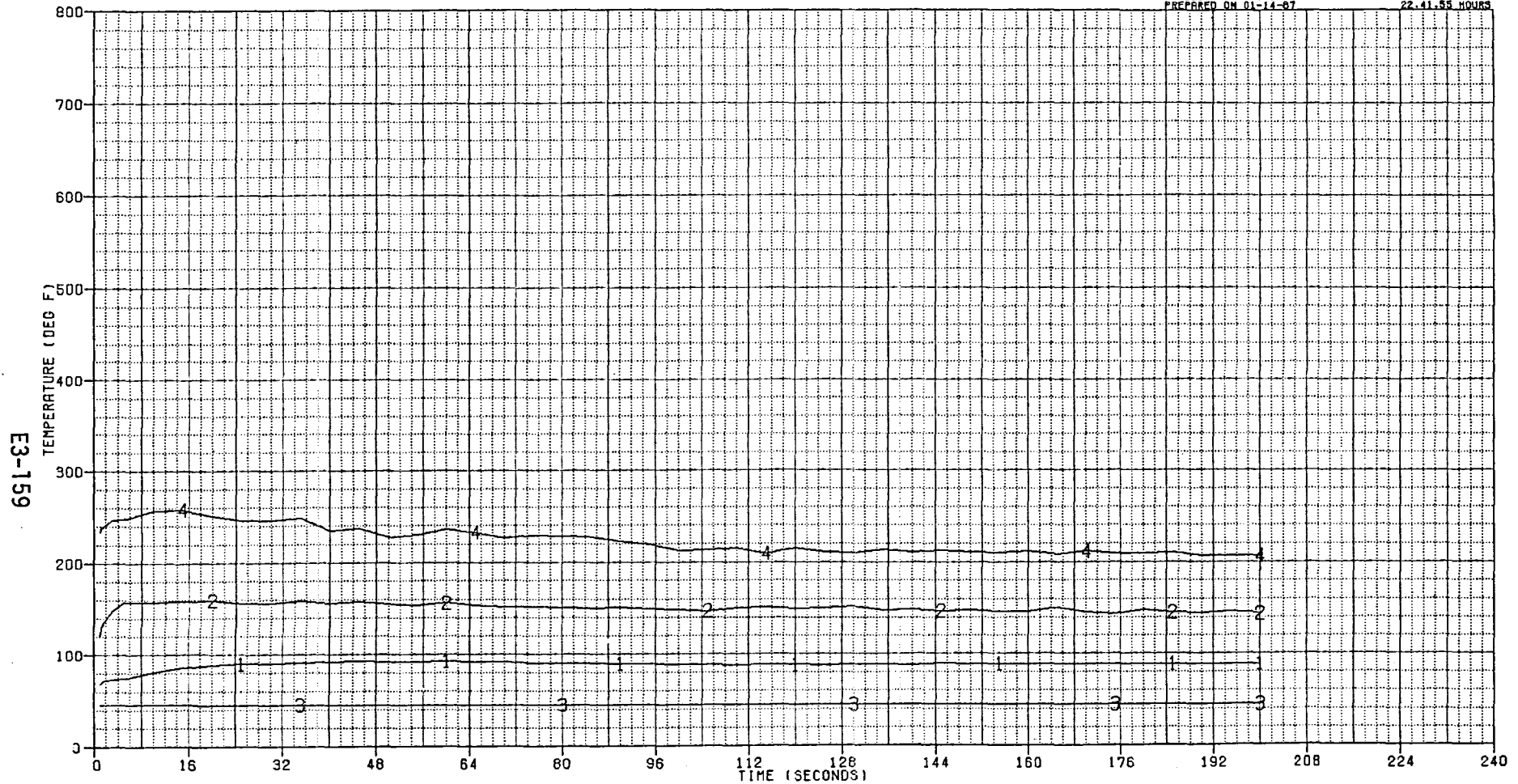
- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F

AEROJET  
**TechSystems**  
 COMPANY

GAS TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-156  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 1618 HOURS AVERAGED DATA



AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-14-87 22:41:53 HOURS

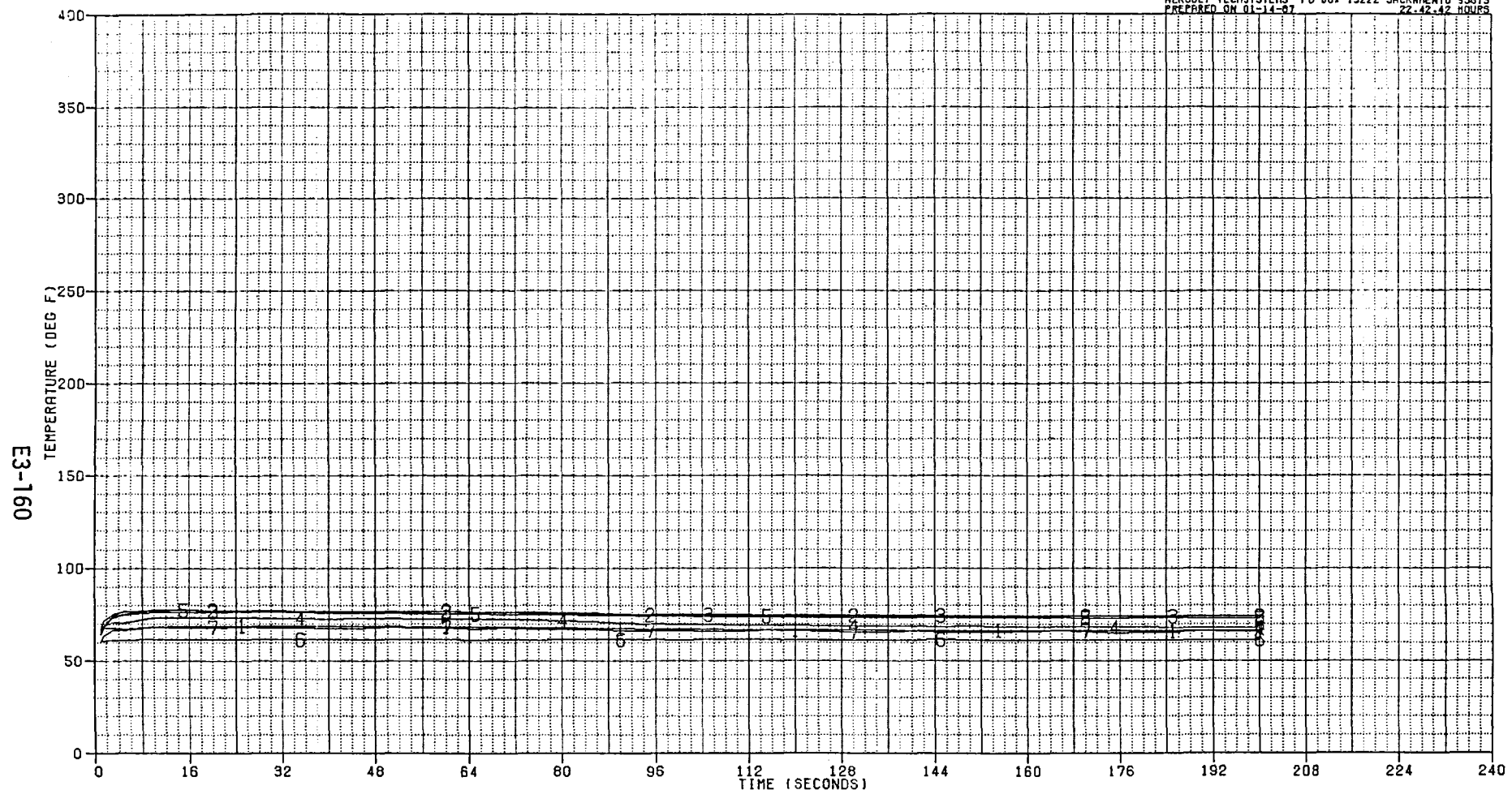


1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-156  
 BARREL DATA  
 TEST DATE 11-19-85 1618 HOURS AVERAGED DATA

AEROJET  
**TechSystems**  
 COMPANY



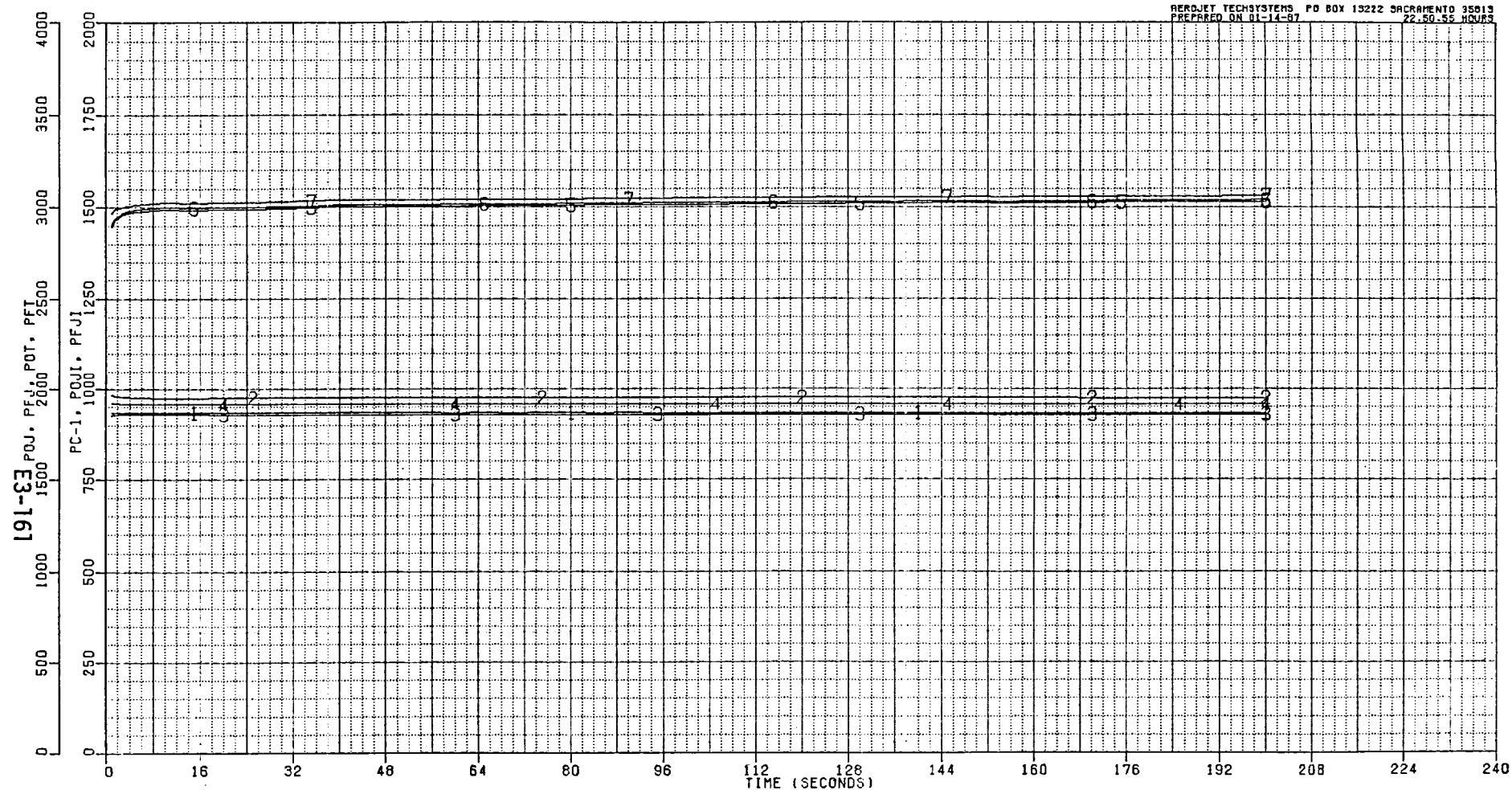


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-156

TEST DATE 11-19-85 1618 HOURS AVERAGED DATA





AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-14-87 22:50:55 HOURS

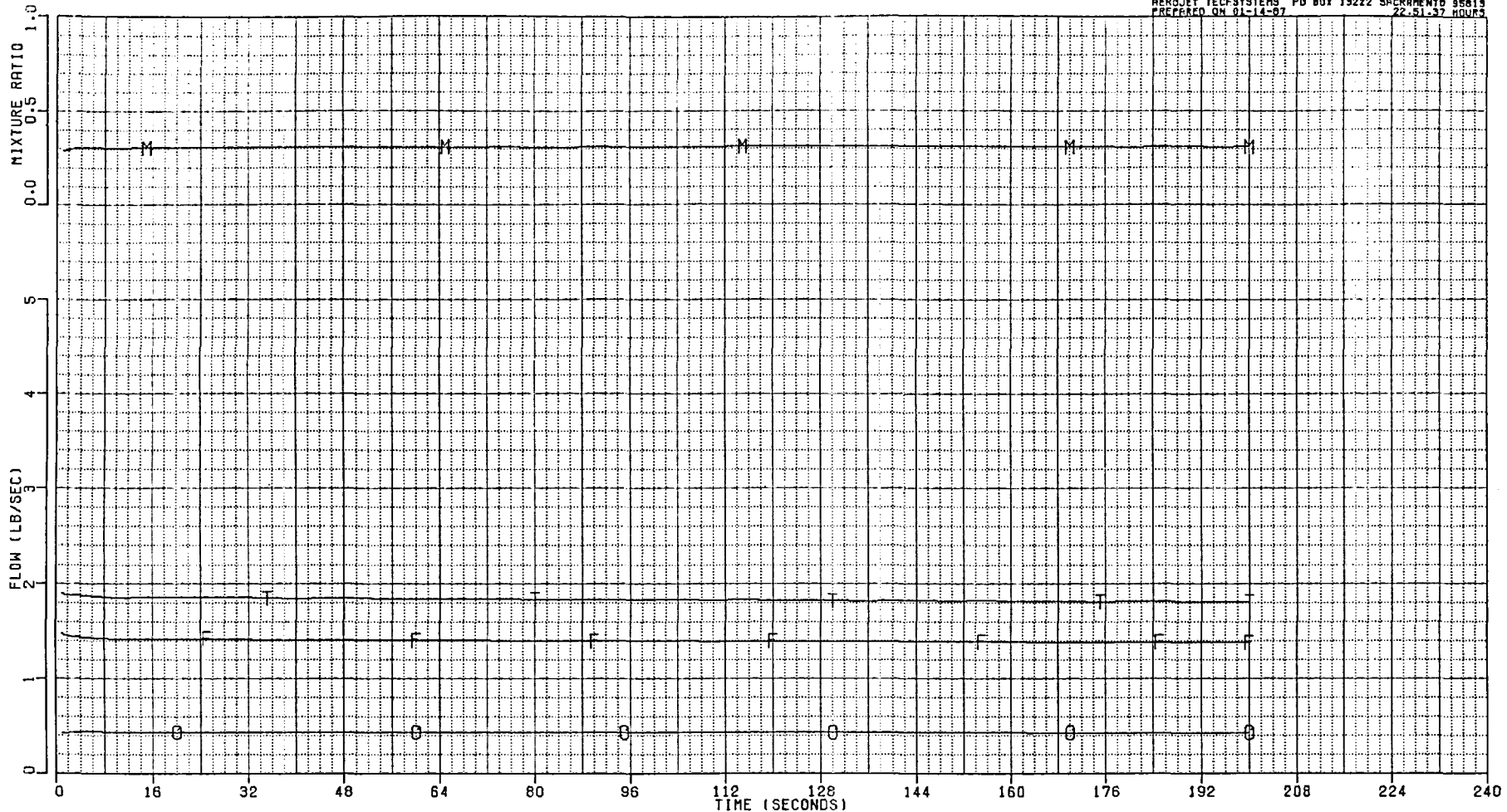
1 POT PSIA  
 2 PFT PSIA  
 3 POJ PSIA  
 4 PFJ PSIA  
 5 PC-1 PSIA  
 6 POJI PSIA  
 7 PFJI PSIA

AEROJET  
**TechSystems**  
 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-936-A6-157

TEST DATE 11-19-85 1649 HOURS AVERAGED DATA

E3-162

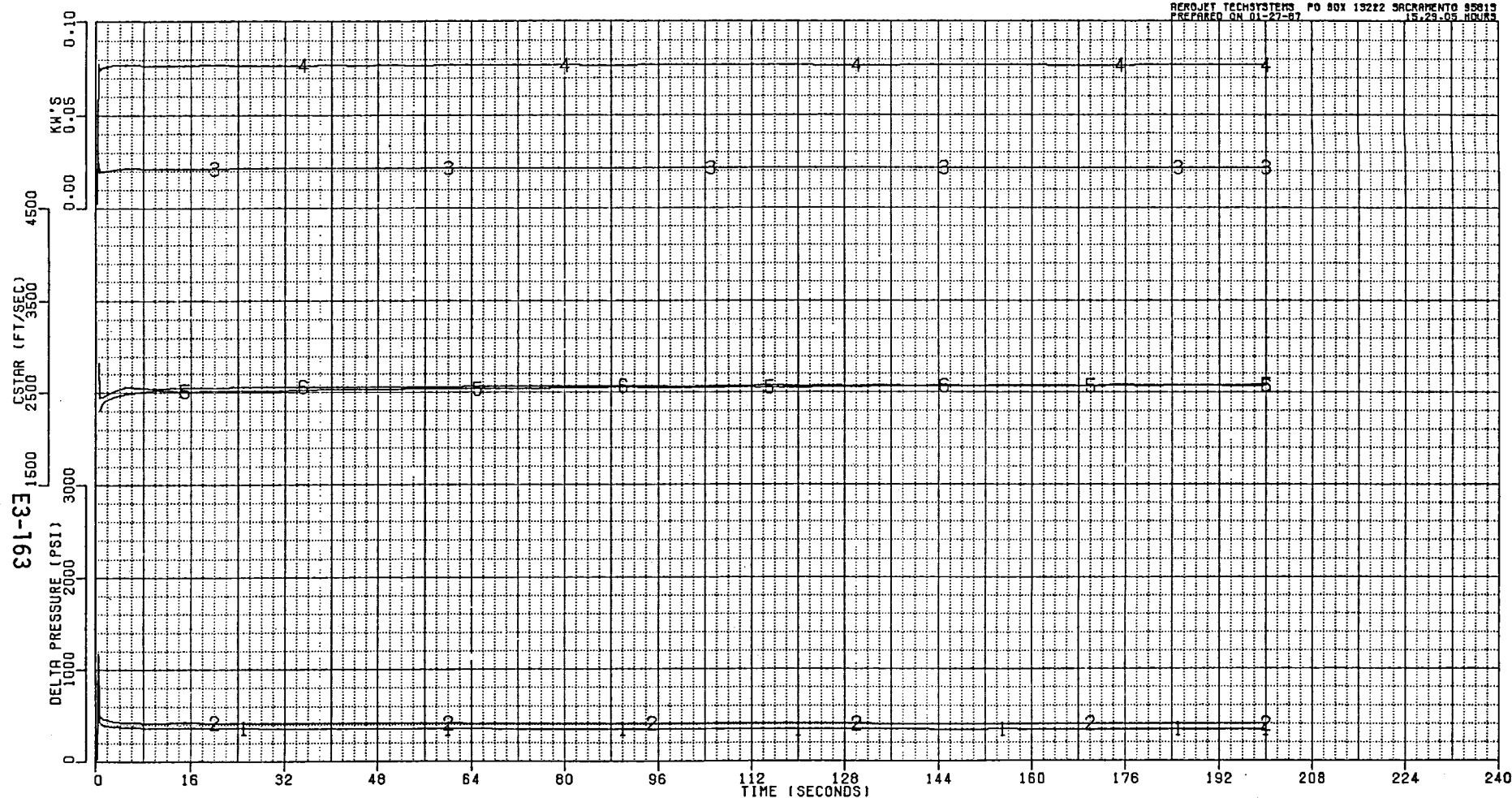


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-157

TEST DATE 11-19-85 1649 HOURS AVERAGED DATA

AEROJET  
**TechSystems**  
 COMPANY

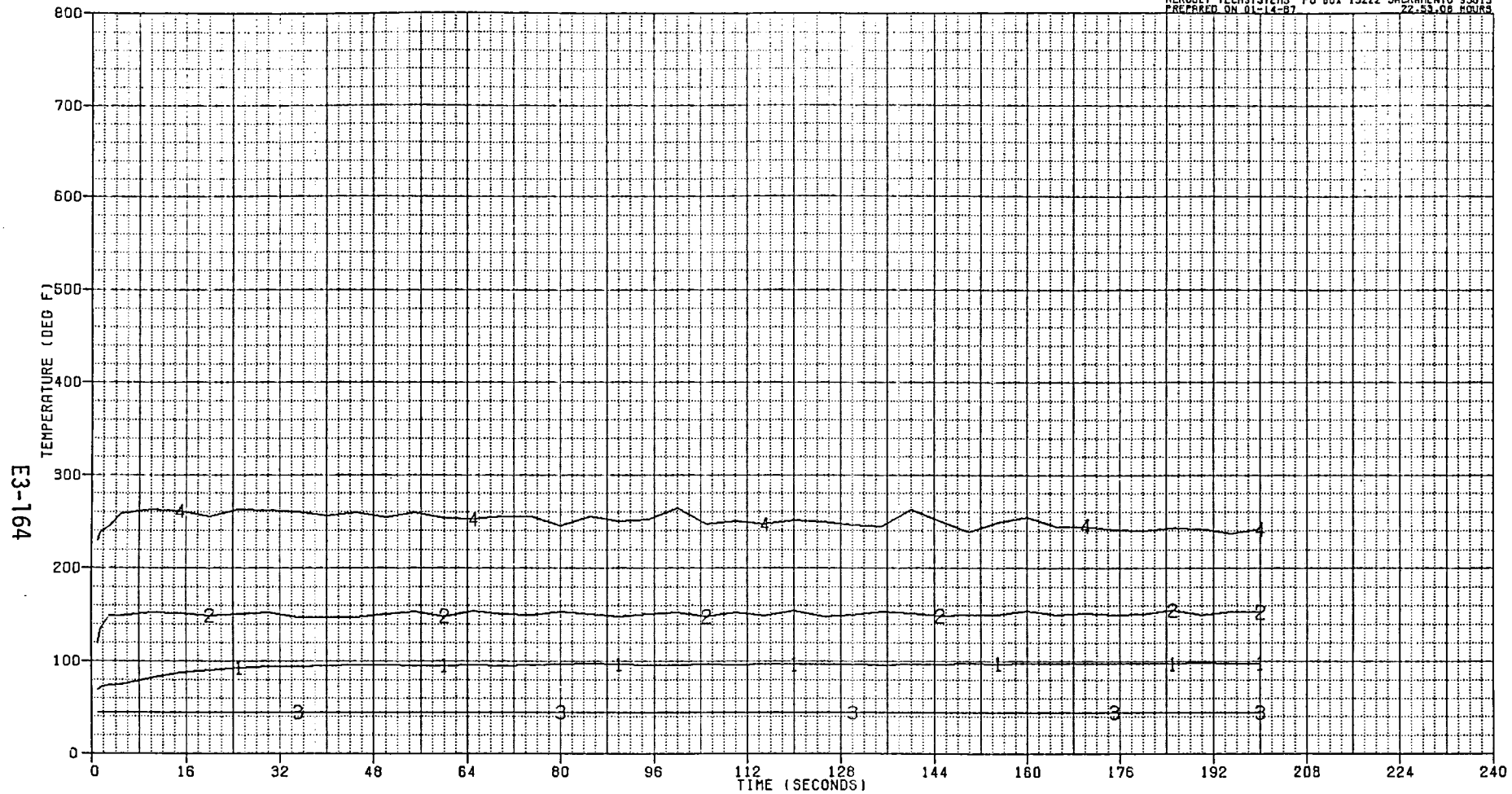


AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-27-87 15:23:05 HOURS

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-936-A6-157

TEST DATE 11-19-85 1649 HOURS AVERAGED DATA

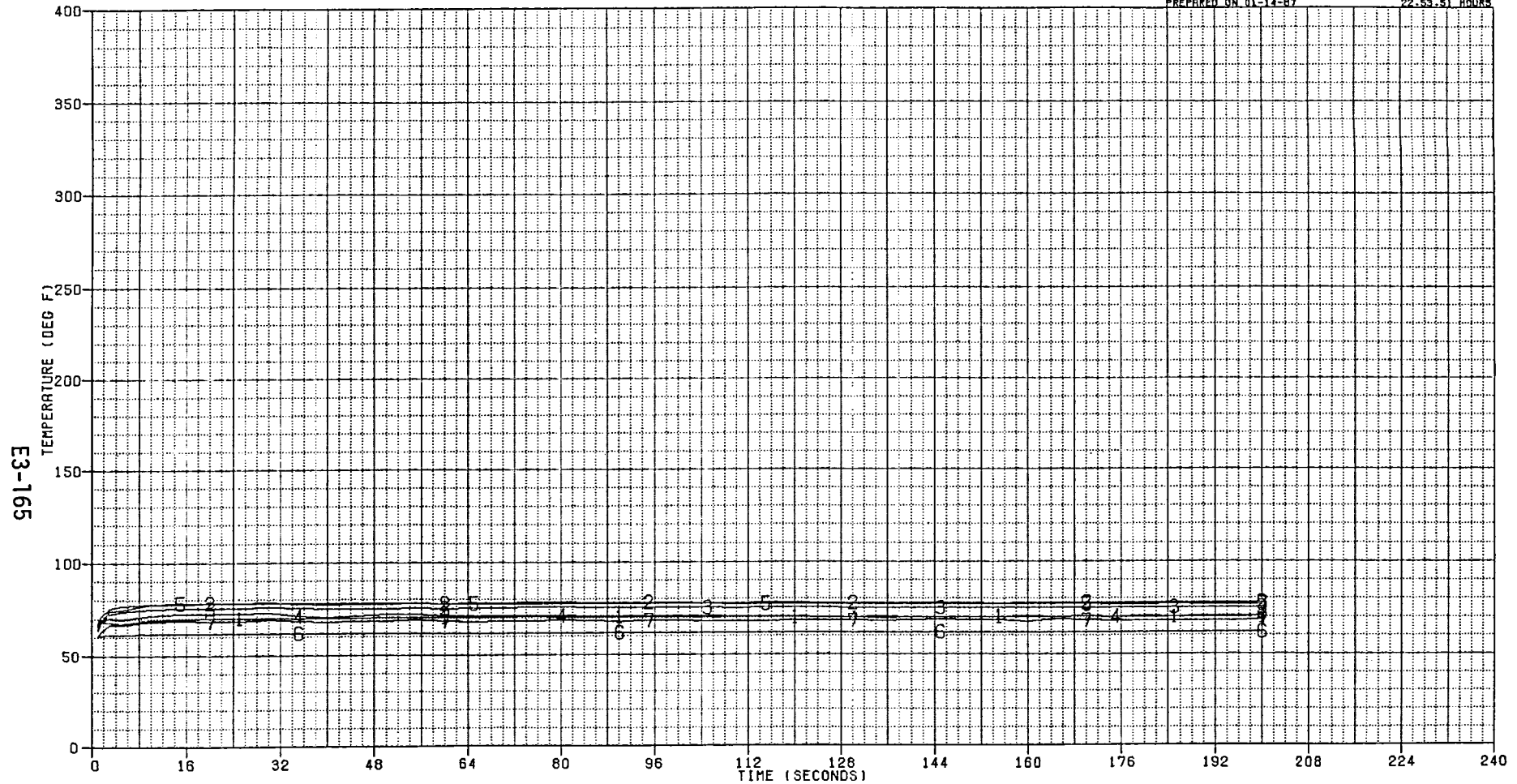
AEROJET  
**TechSystems**  
COMPANY



1 TC-7 DEG F  
2 TC-10 DEG F  
3 TC-11 DEG F  
4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-157  
BARREL DATA  
TEST DATE 11-19-85 1649 HOURS AVERAGED DATA

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@TechSystems  
COMPANY

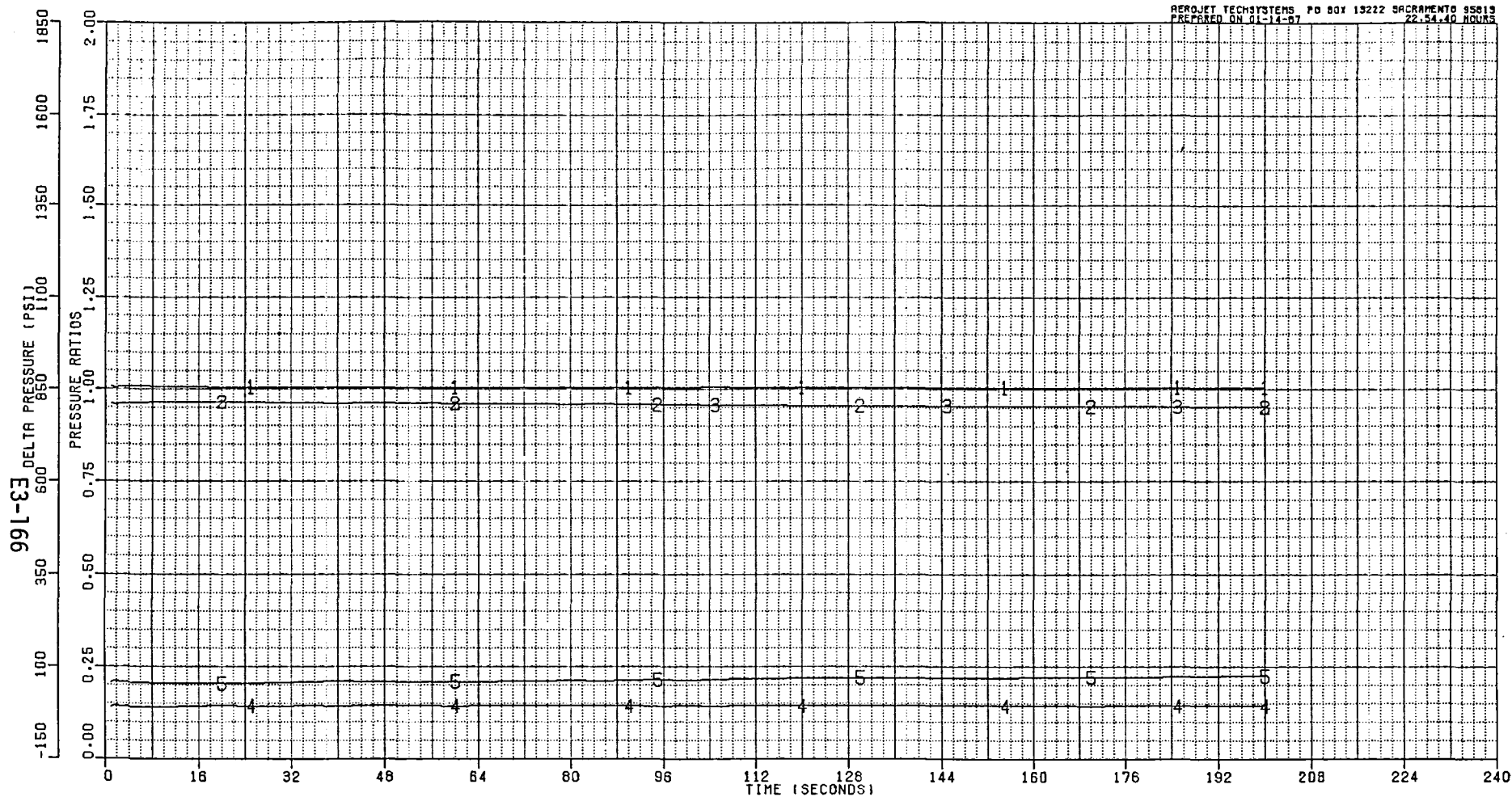


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

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**TechSystems**  
 COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-157

TEST DATE 11-19-85 1649 HOURS AVERAGED DATA



AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-14-87 22:54:40 HOURS

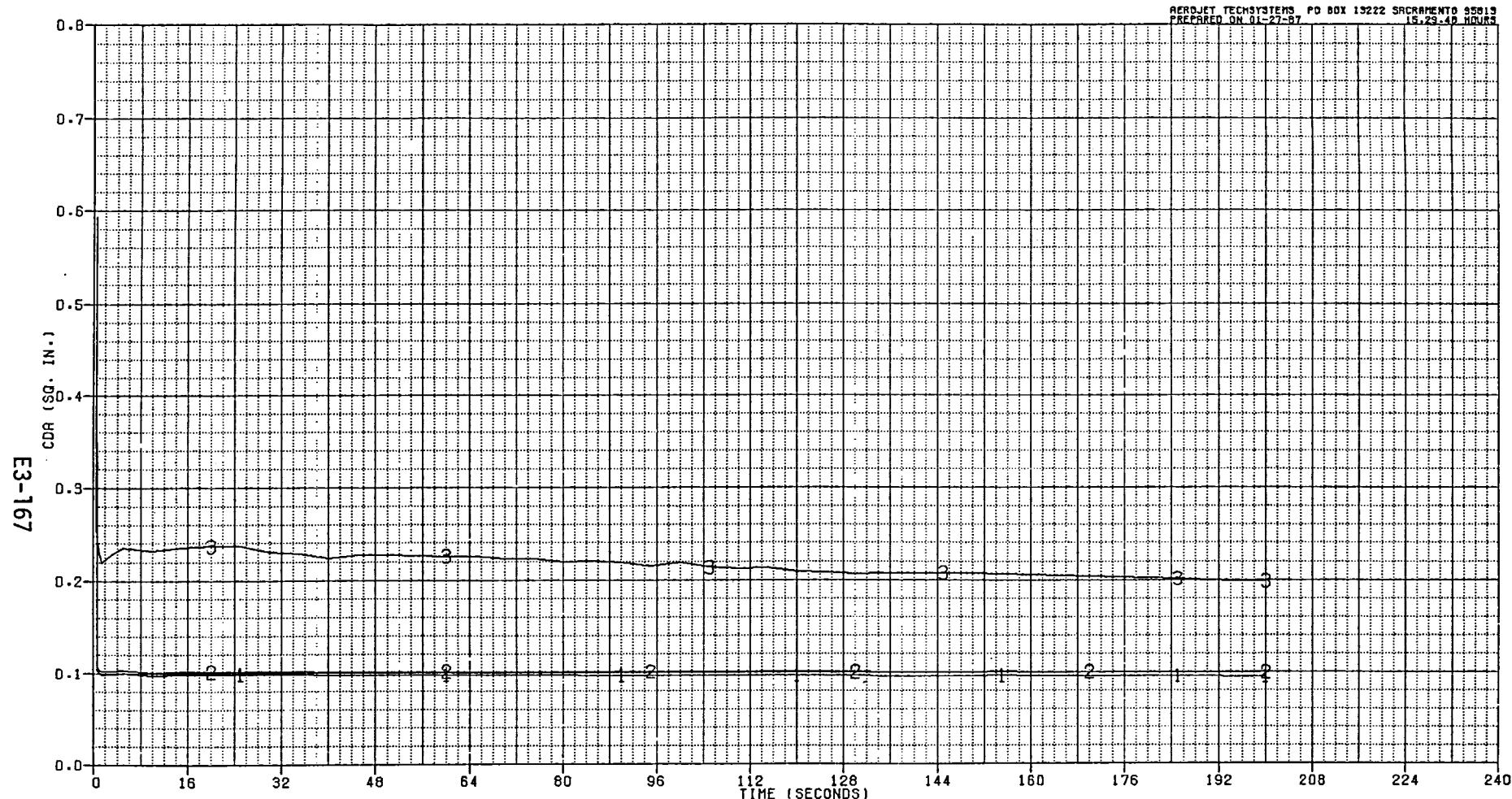
- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-157  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 11-19-85 1649 HOURS AVERAGED DATA





E3-167

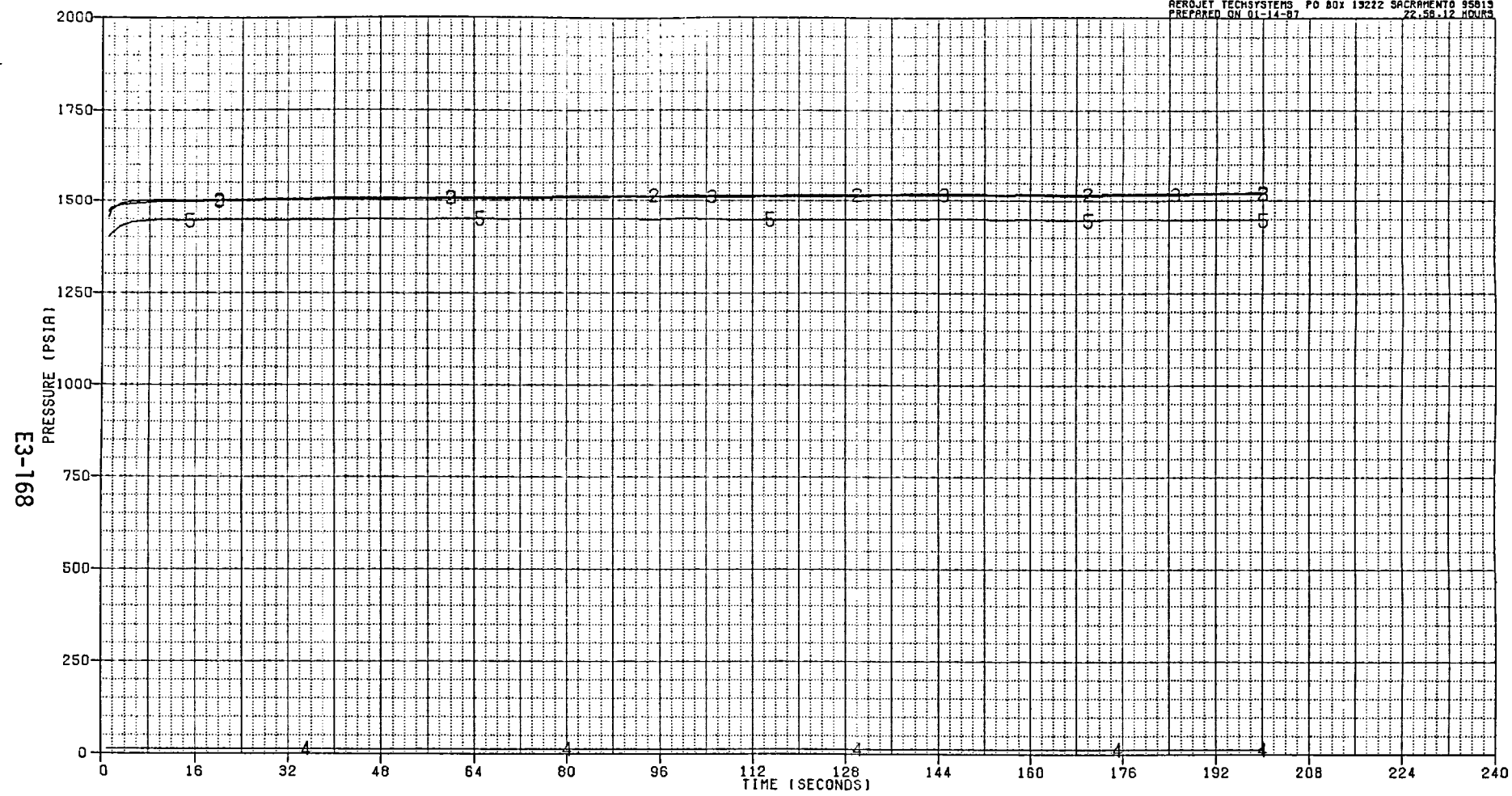
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-27-87 15:29:40 HOURS

1 NA1 SQ. IN.  
 2 NA2 SQ. IN.  
 3 CDR

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-936-A6-157  
 NOZZLE AREA CHANGE  
 TEST DATE 11-19-85 1649 HOURS AVERAGED DATA





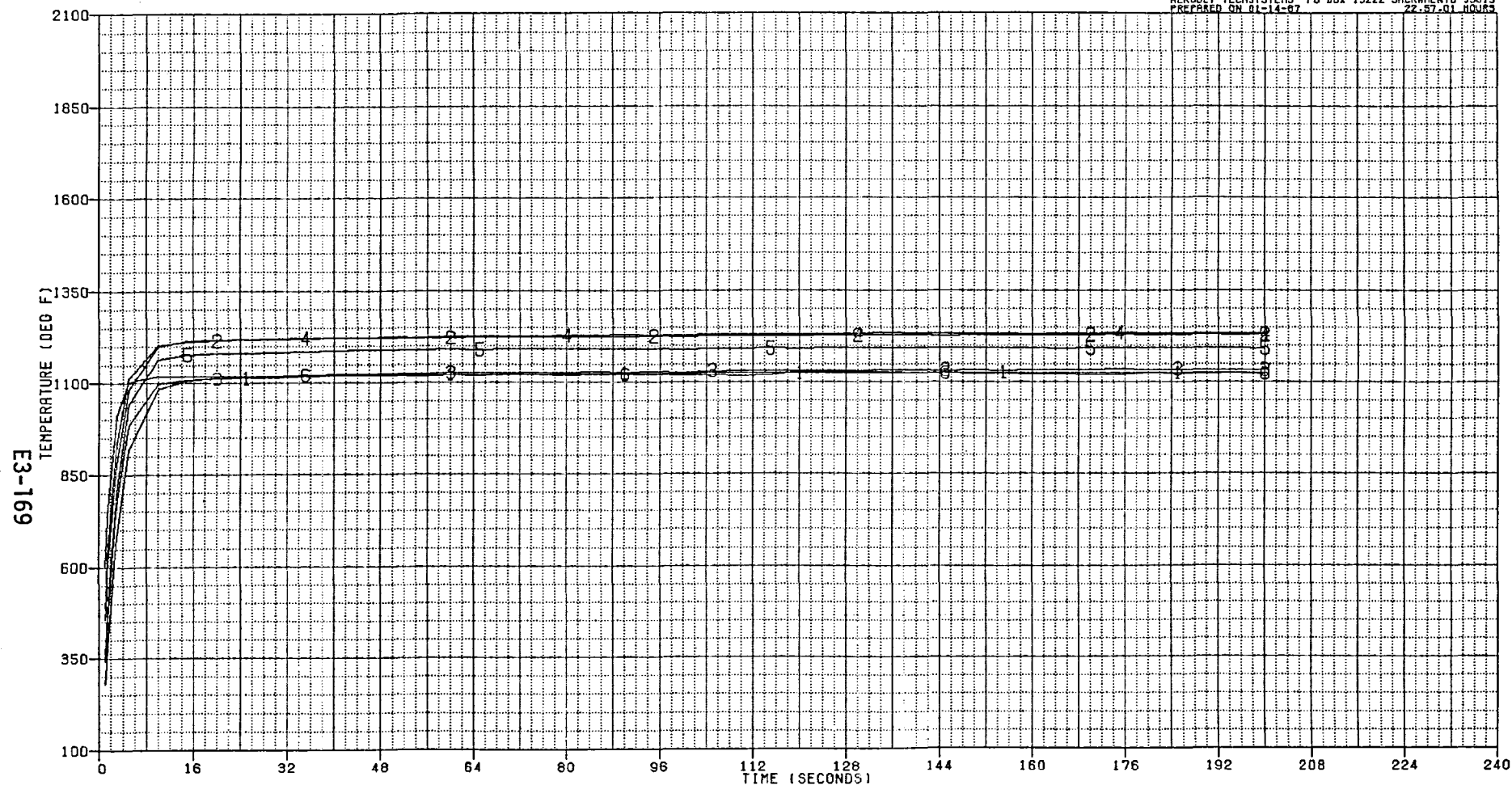


891-83

- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



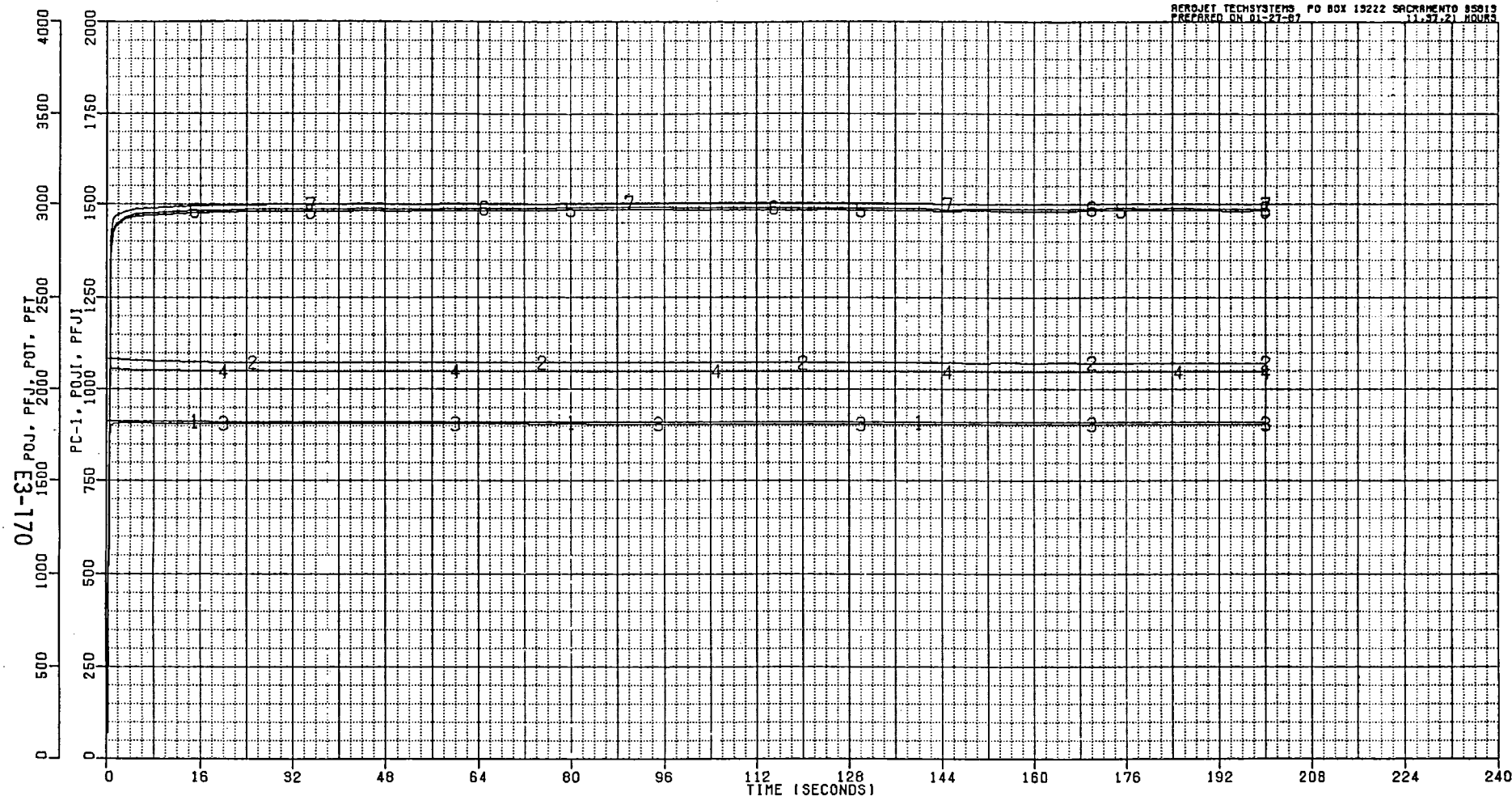
TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-157  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 1649 HOURS AVERAGED DATA



- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-157  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 1649 HOURS AVERAGED DATA



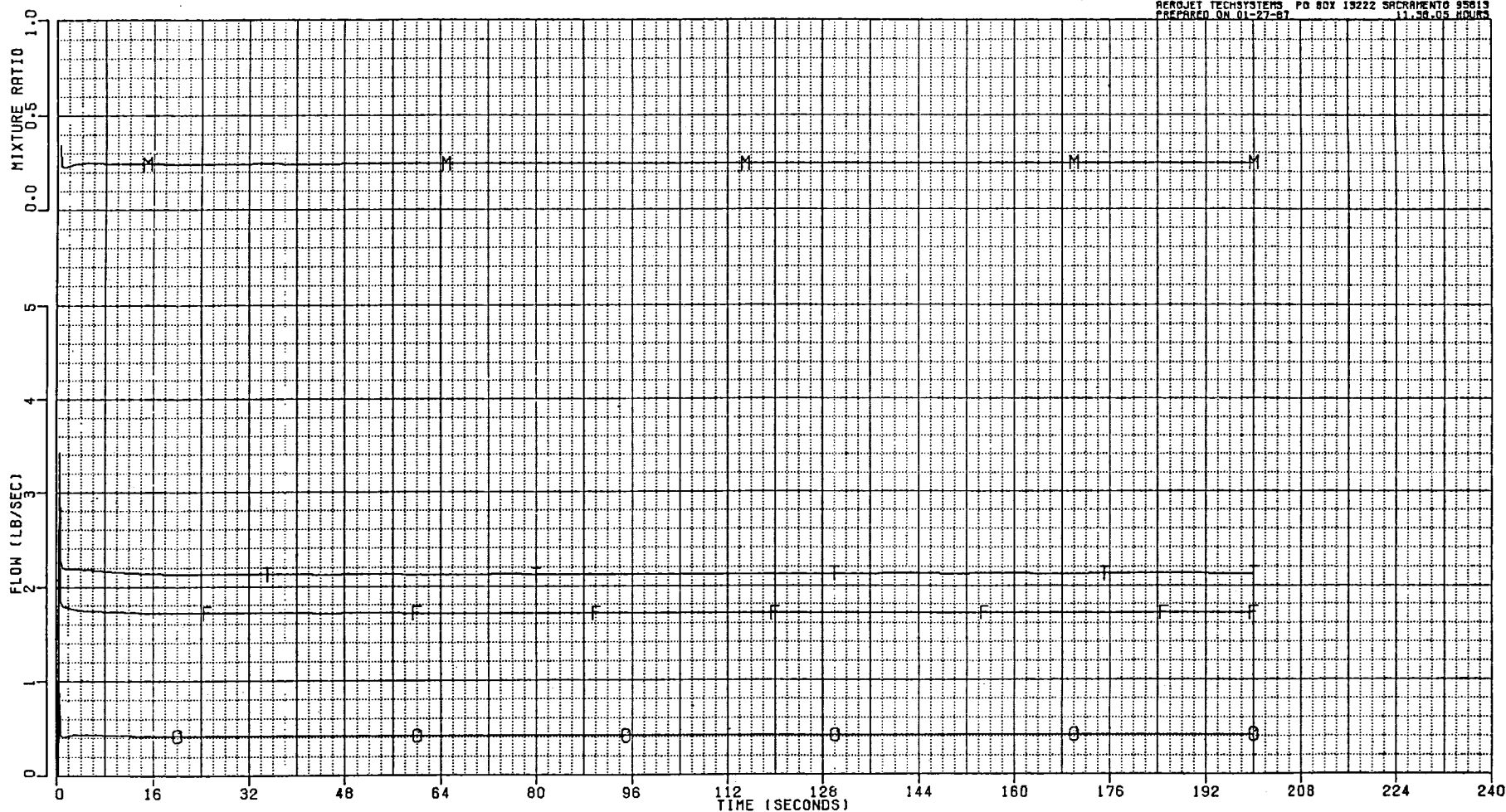
1 POT PSIA  
2 PFT PSIA  
3 POJ PSIA  
4 PFJ PSIA  
5 PC-1 PSIA  
6 POJI PSIA  
7 PFJI PSIA

AEROJET  
**TechSystems**  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-936-A6-158

TEST DATE 11-19-85 1715 HOURS AVERAGED DATA

E3-171



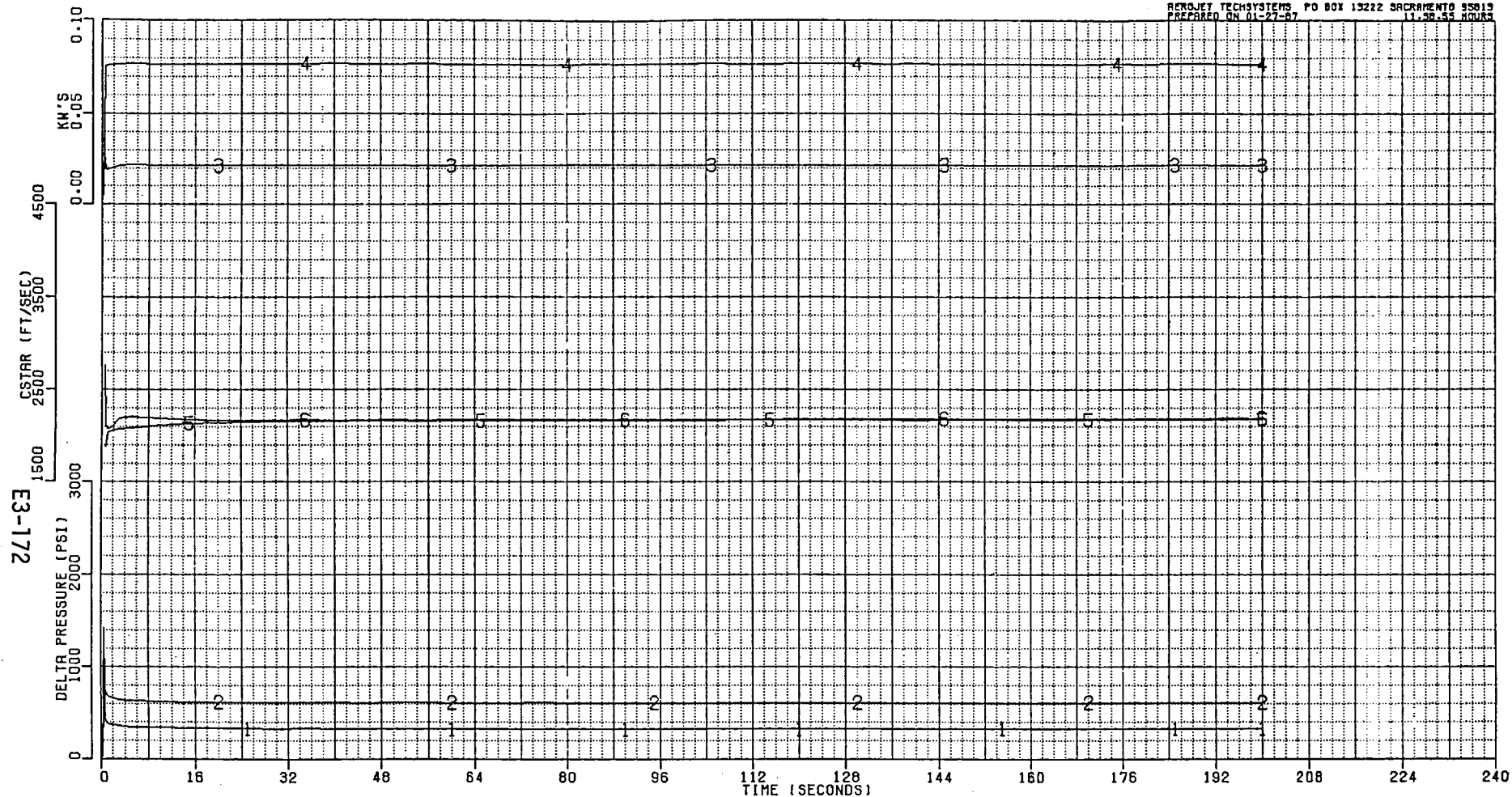
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-27-87 11:38:05 HOURS

F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-158

TEST DATE 11-19-85 1715 HOURS AVERAGED DATA

AEROJET  
**TechSystems**  
 COMPANY



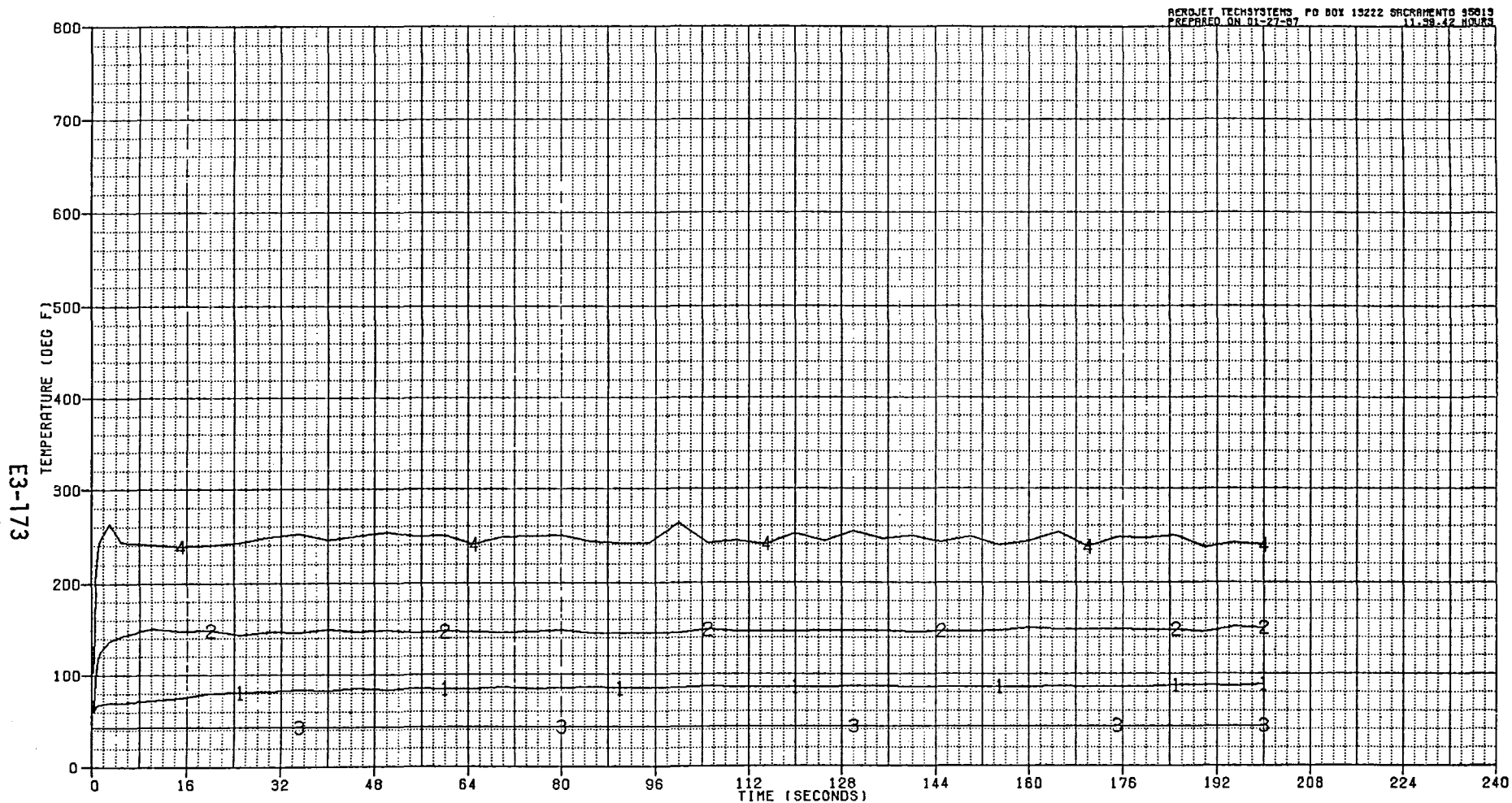
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-27-87 11:58:55 HOURS

1 DPOJ PSI  
2 DPFJ PSI  
3 KWOJ  
4 KWFJ  
5 CSTRPB FT/SEC  
6 CSTAR FT/SEC

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-936-A6-158

TEST DATE 11-19-85 1715 HOURS AVERAGED DATA

AEROJET  
**TechSystems**  
COMPANY



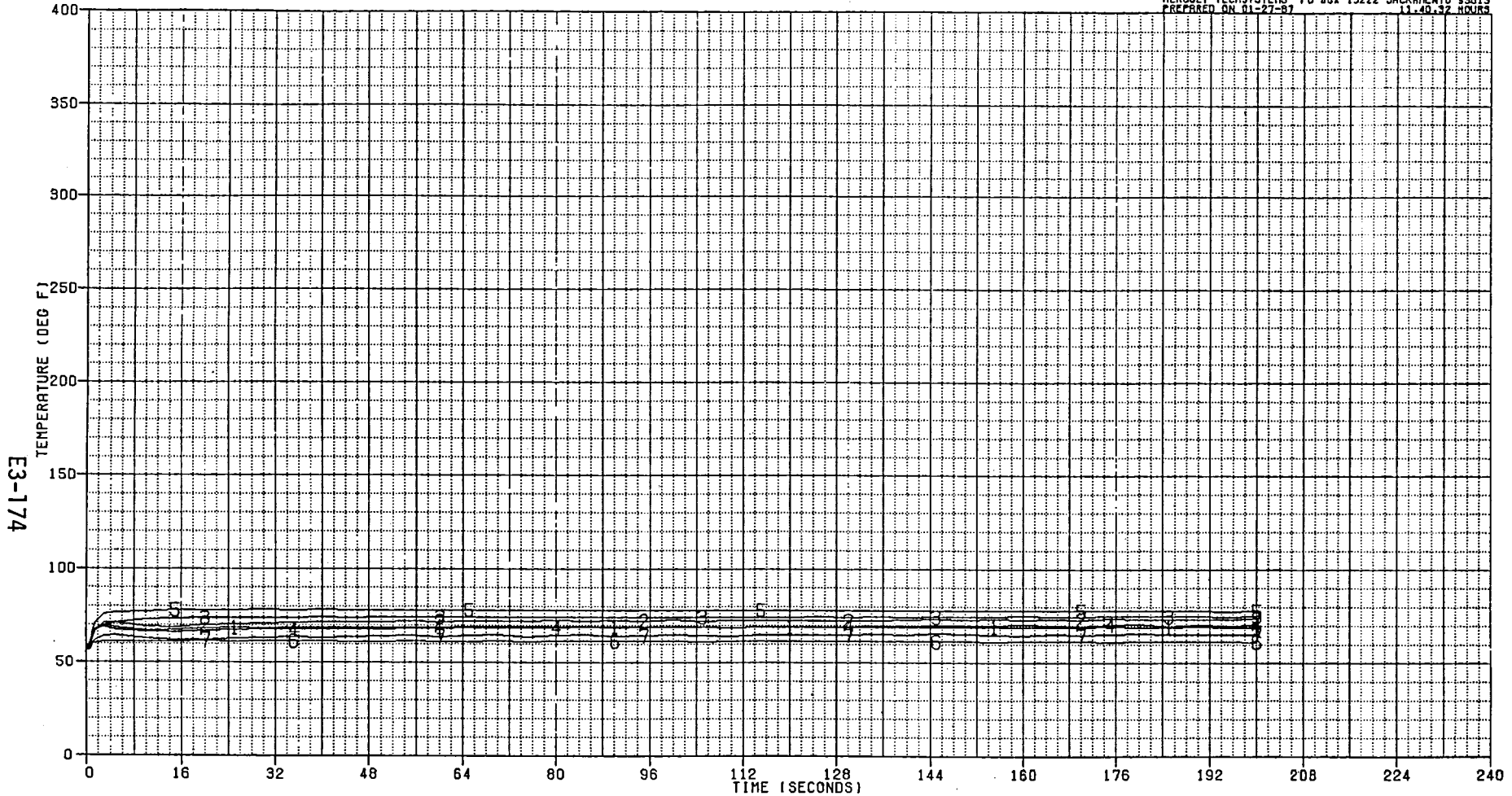
E3-173

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-27-87 11:38:42 HOURS

- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-158  
 BARREL DATA  
 TEST DATE 11-19-85 1715 HOURS AVERAGED DATA





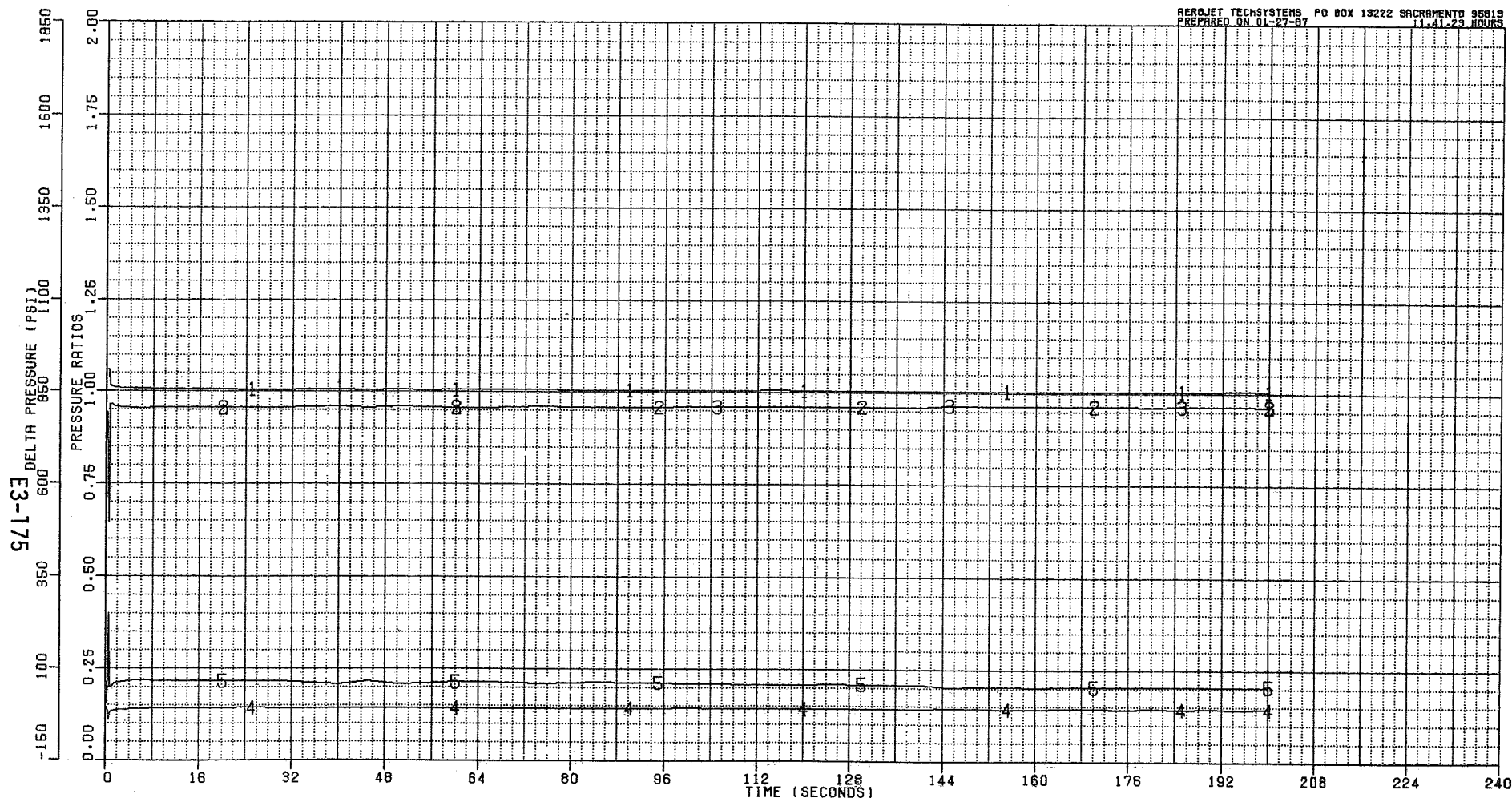
1 TWC-2 DEG F  
2 TWC-26 DEG F  
3 TWC-27 DEG F  
4 TWC-31 DEG F  
5 TWC-32 DEG F  
6 TWC-33 DEG F  
7 TC-7C DEG F

COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-936-A6-158

TEST DATE 11-19-85 1715 HOURS AVERAGED DATA

AEROJET  
TechSystems  
COMPANY





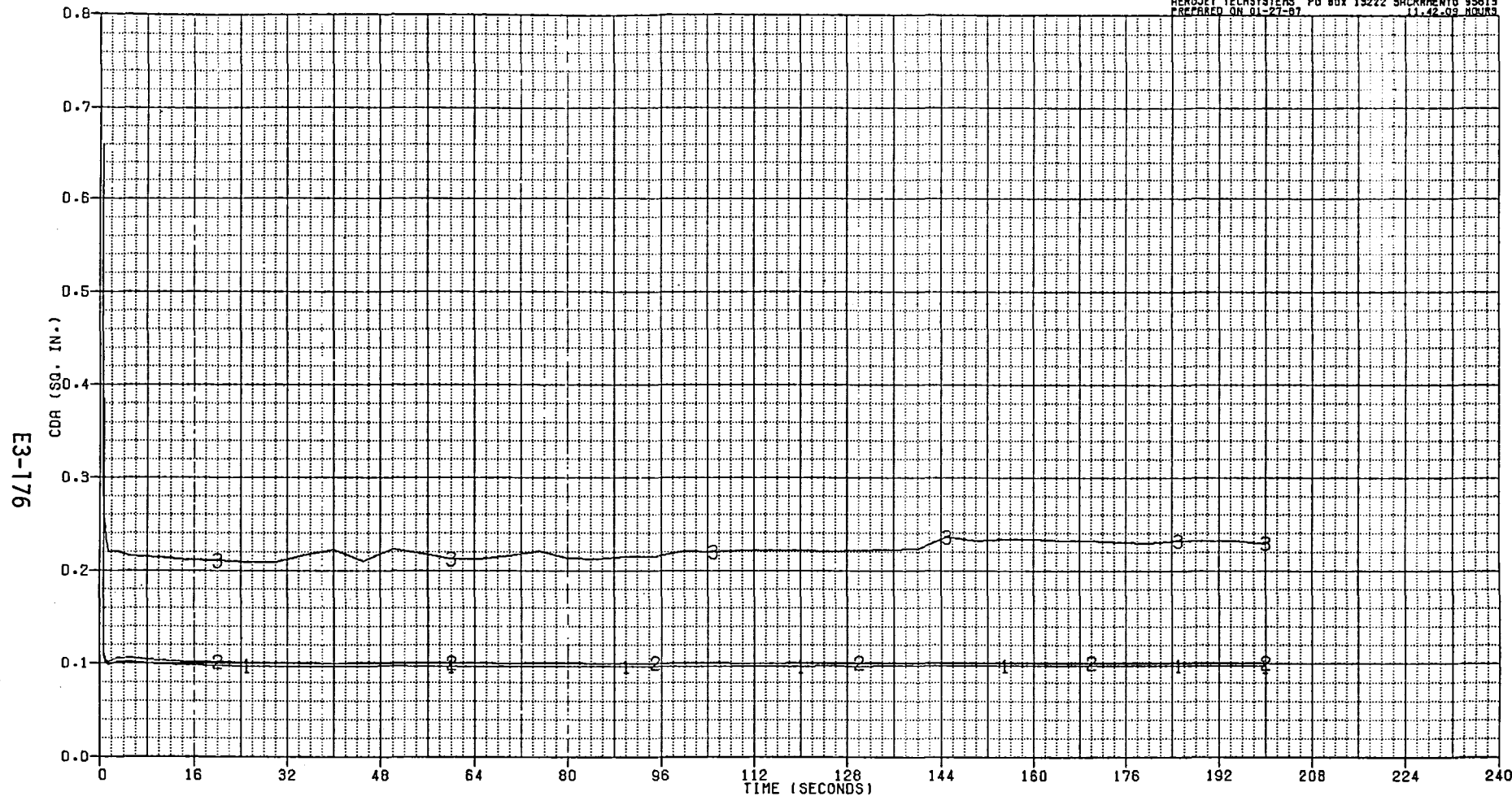
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-27-87 11:41:23 HOURS

- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR PSI
- 5 DPTS-C PSI
- 6 DPTS PSI

AEROJET  
**@TechSystems**  
COMPANY

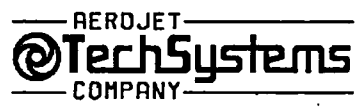
TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-158  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 11-19-85 1715 HOURS AVERAGED DATA

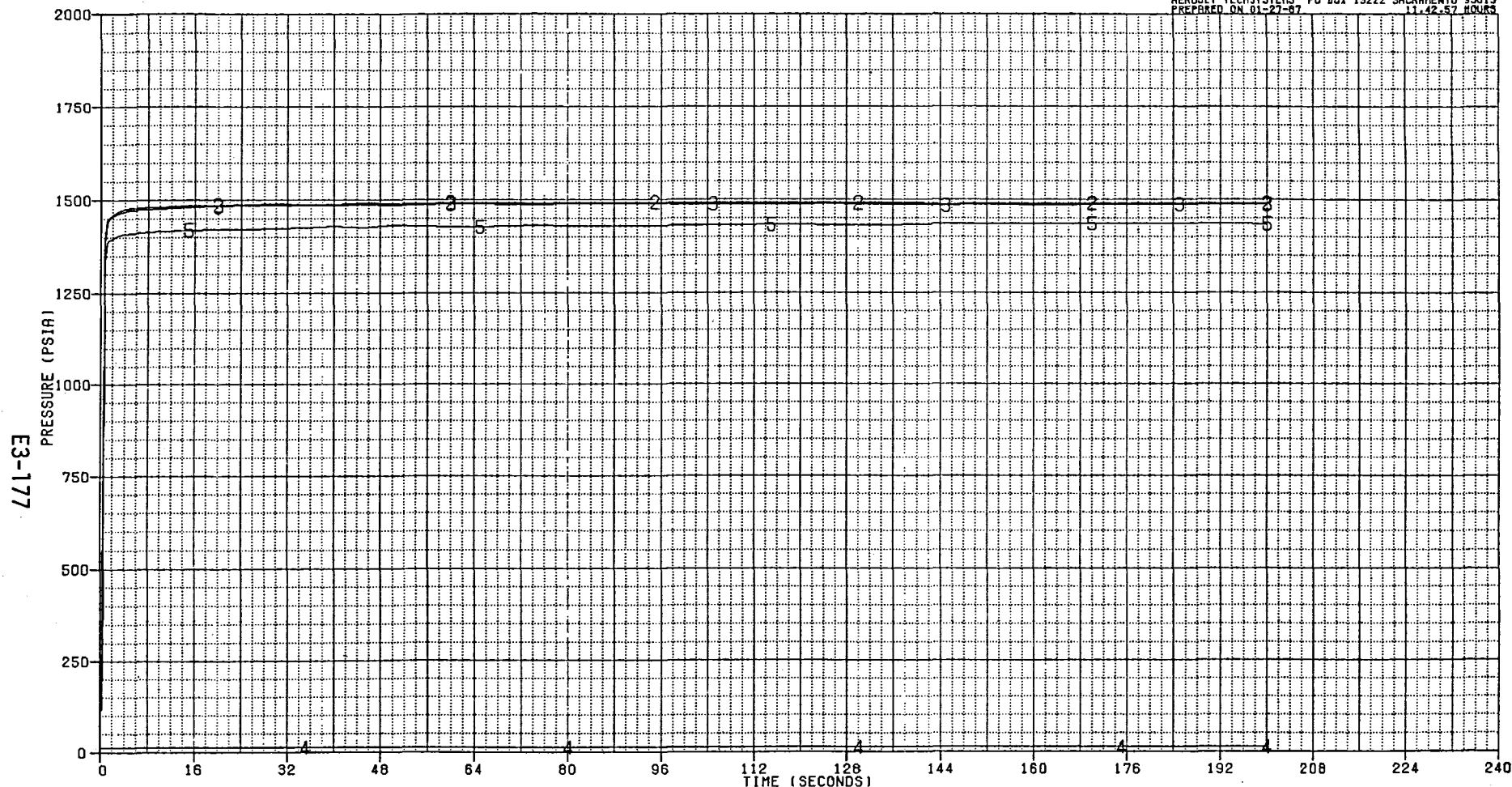




1 NA1 SQ.IN.  
2 NA2 SQ.IN.  
3 CDR

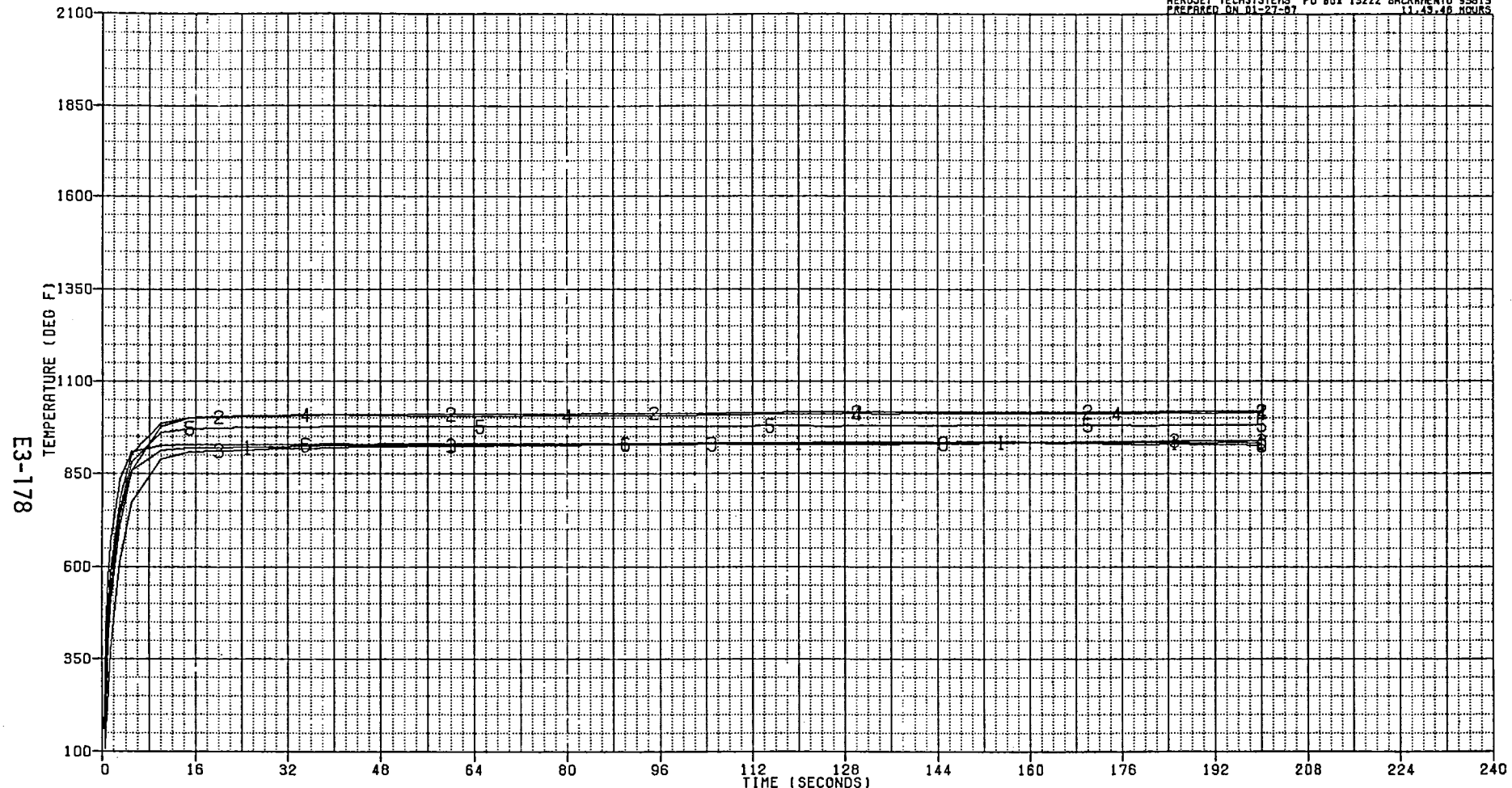
TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-158  
NOZZLE AREA CHANGE  
TEST DATE 11-19-85 1715 HOURS AVERAGED DATA





1 PCTSU PSIA  
 2 PCTSU-2 PSIA  
 3 PCTSU-3 PSIA  
 4 PCTSD PSIA  
 5 PCTSD-2 PSIA

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-158  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 1715 HOURS AVERAGED DATA

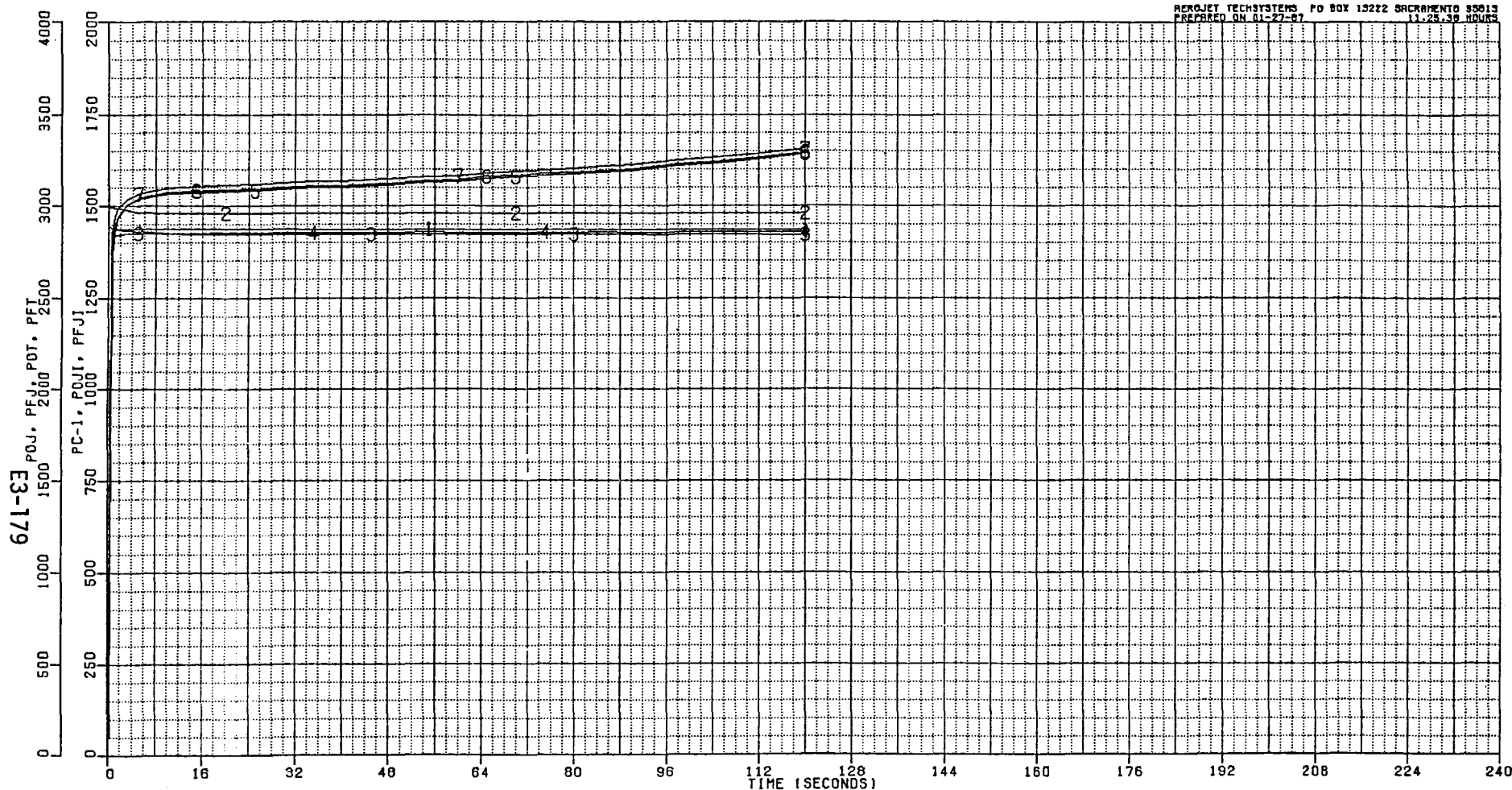


E3-178

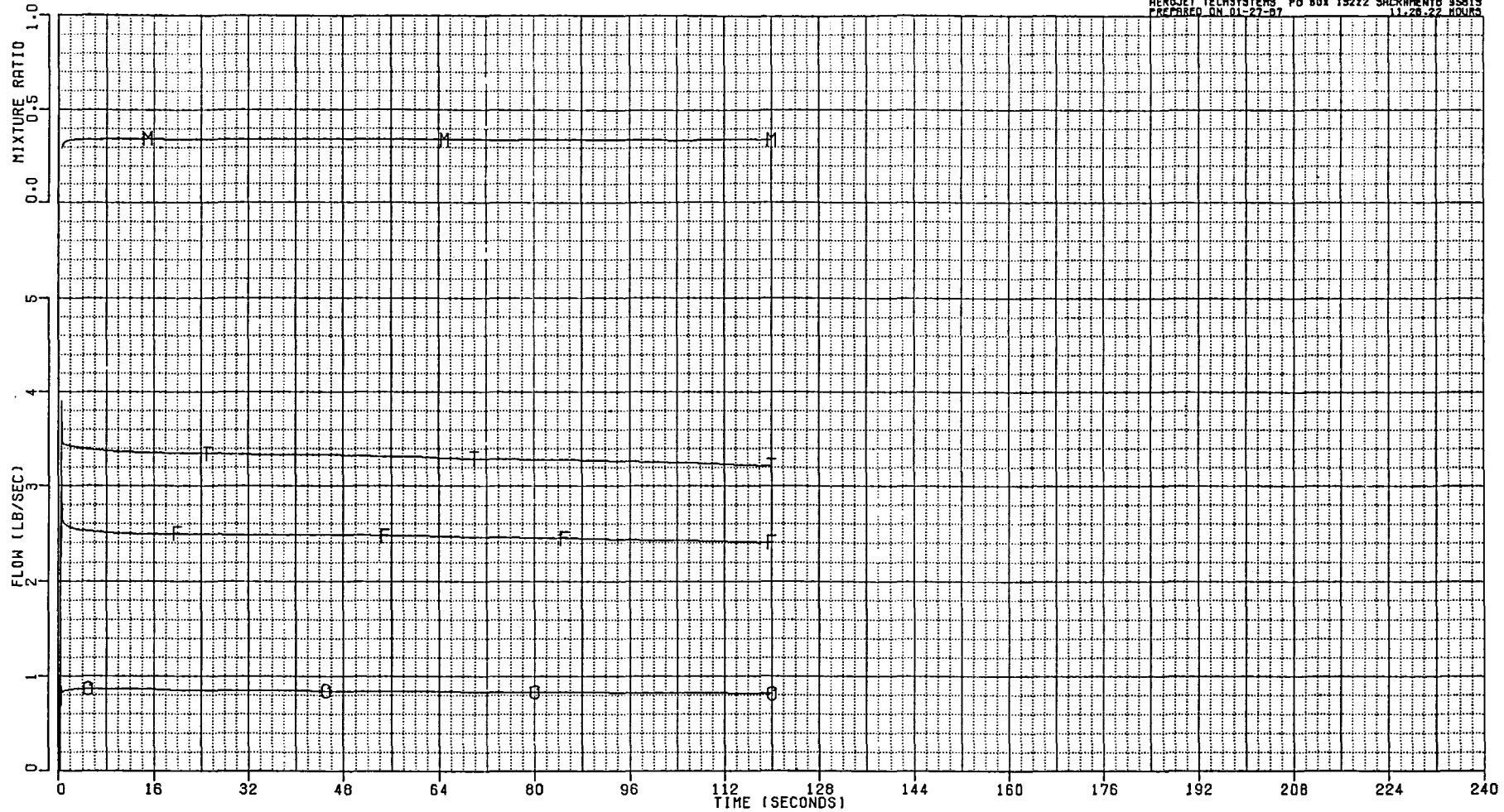
- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-158  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 1715 HOURS AVERAGED DATA



E3-180

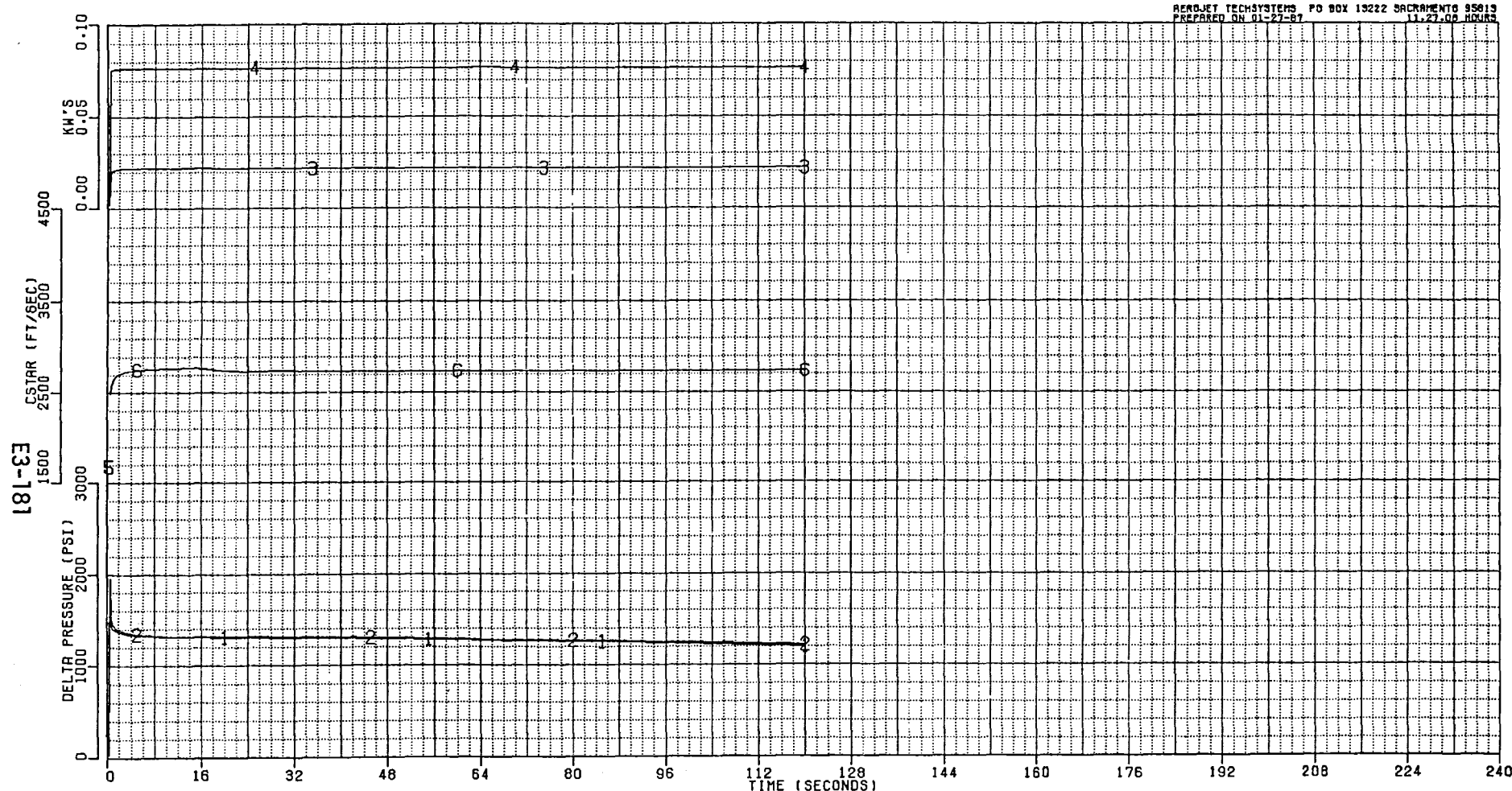


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-936-A6-160

TEST DATE 11-19-85 1913 HOURS AVERAGED DATA

AEROJET  
 TechSystems  
 COMPANY

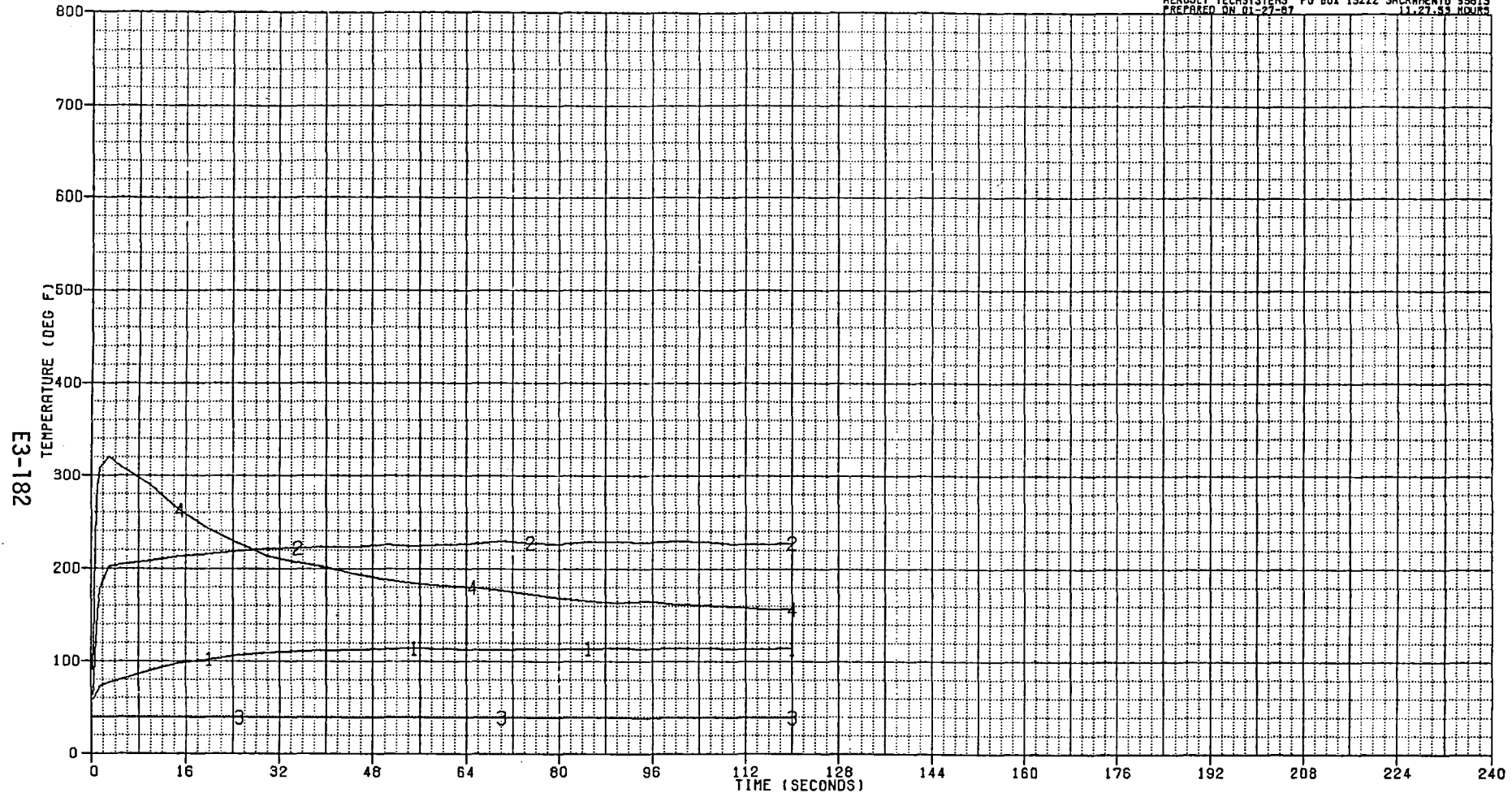


1 DP0J PSI  
2 DPFJ PSI  
3 KW0J  
4 KWfJ  
5 CSTRPB FT/SEC  
6 CSTAR FT/SEC

AEROJET  
**@TechSystems**  
COMPANY

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-936-A6-160

TEST DATE 11-19-85 1913 HOURS AVERAGED DATA



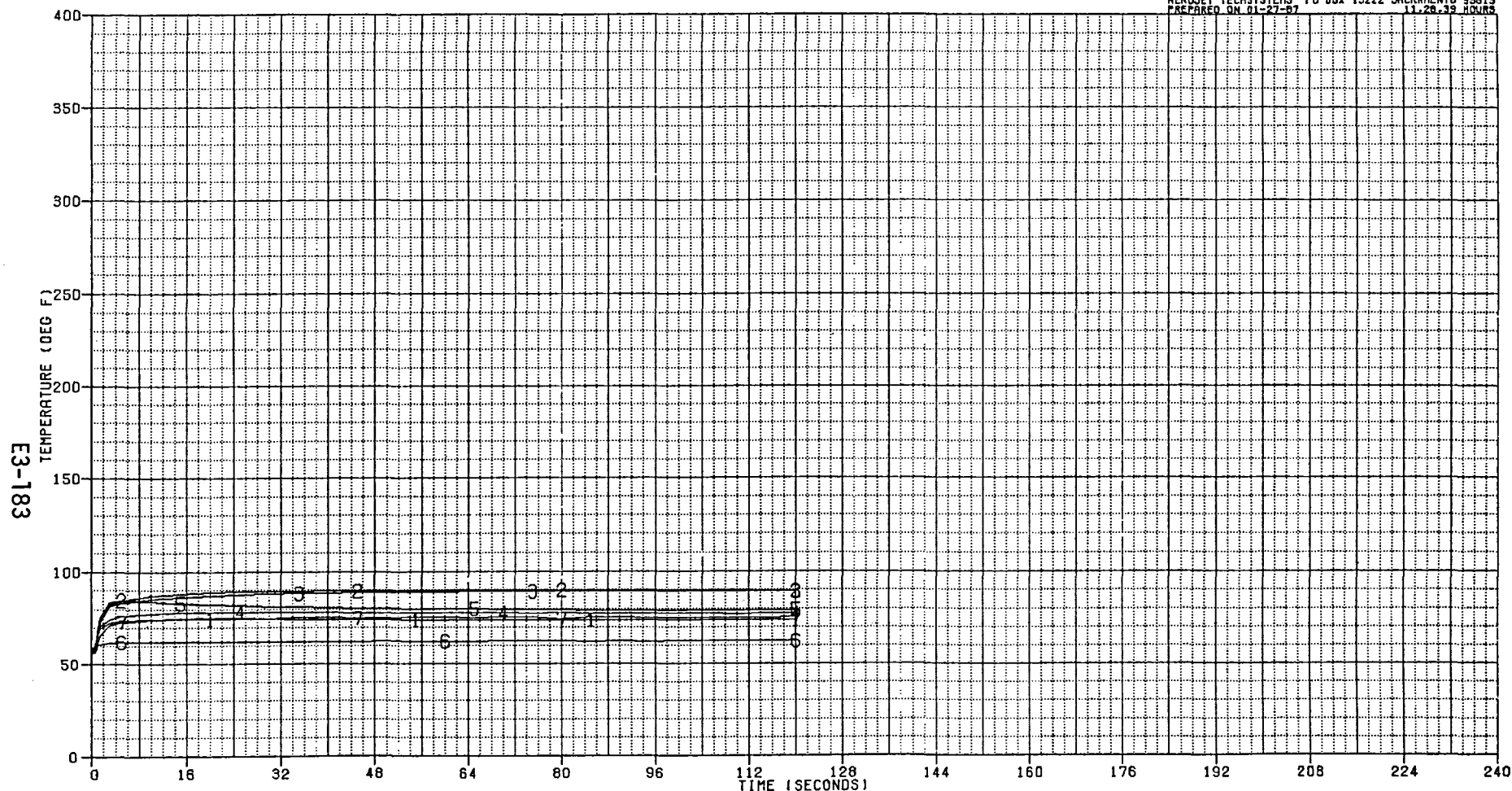
1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

AEROJET  
**TechSystems**  
 COMPANY

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-160  
 BARREL DATA  
 TEST DATE 11-19-85 1913 HOURS AVERAGED DATA



AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 01-27-87 11:28:39 HOURS



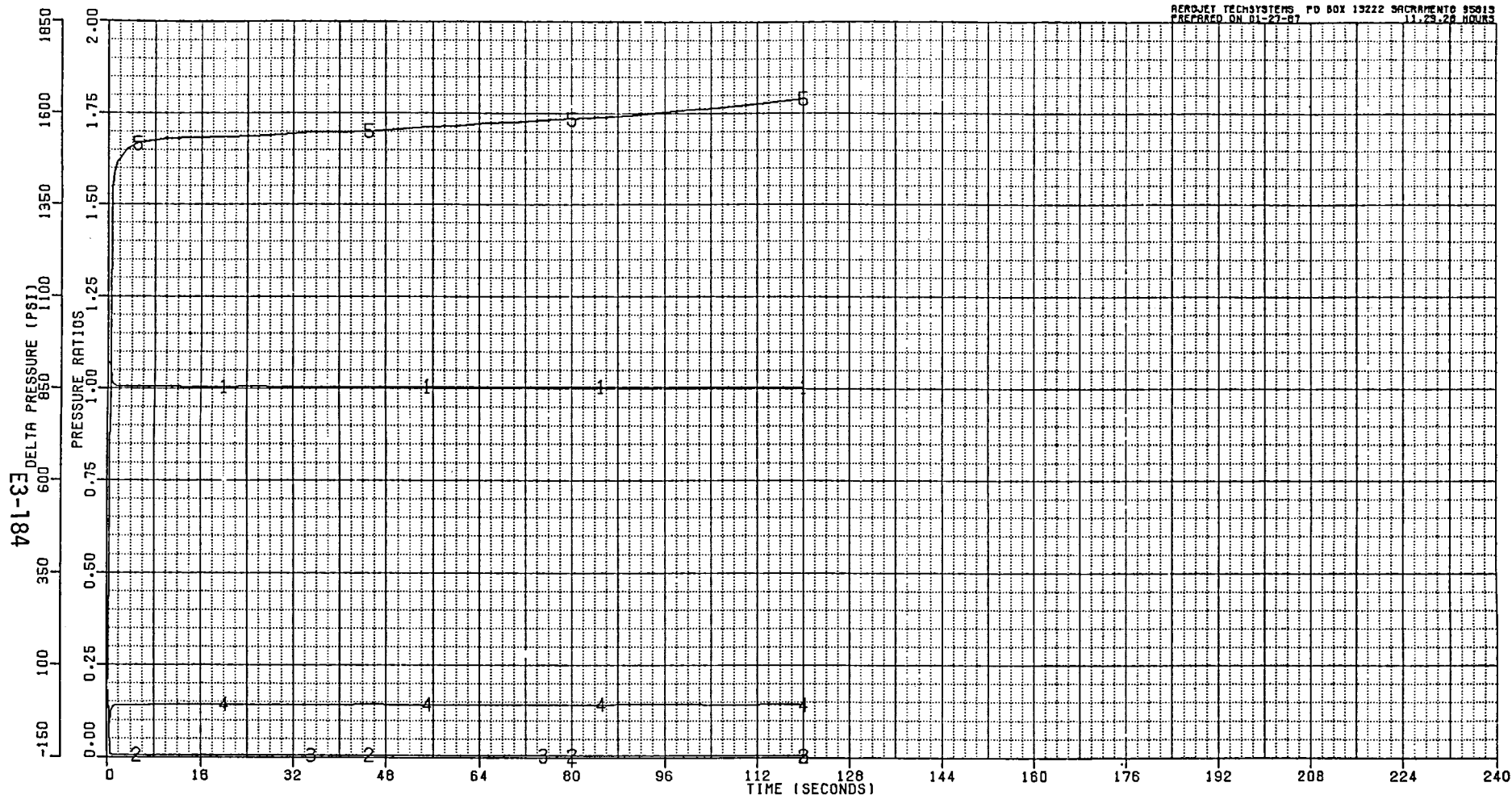
- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F



COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-160

TEST DATE 11-19-85 1913 HOURS AVERAGED DATA



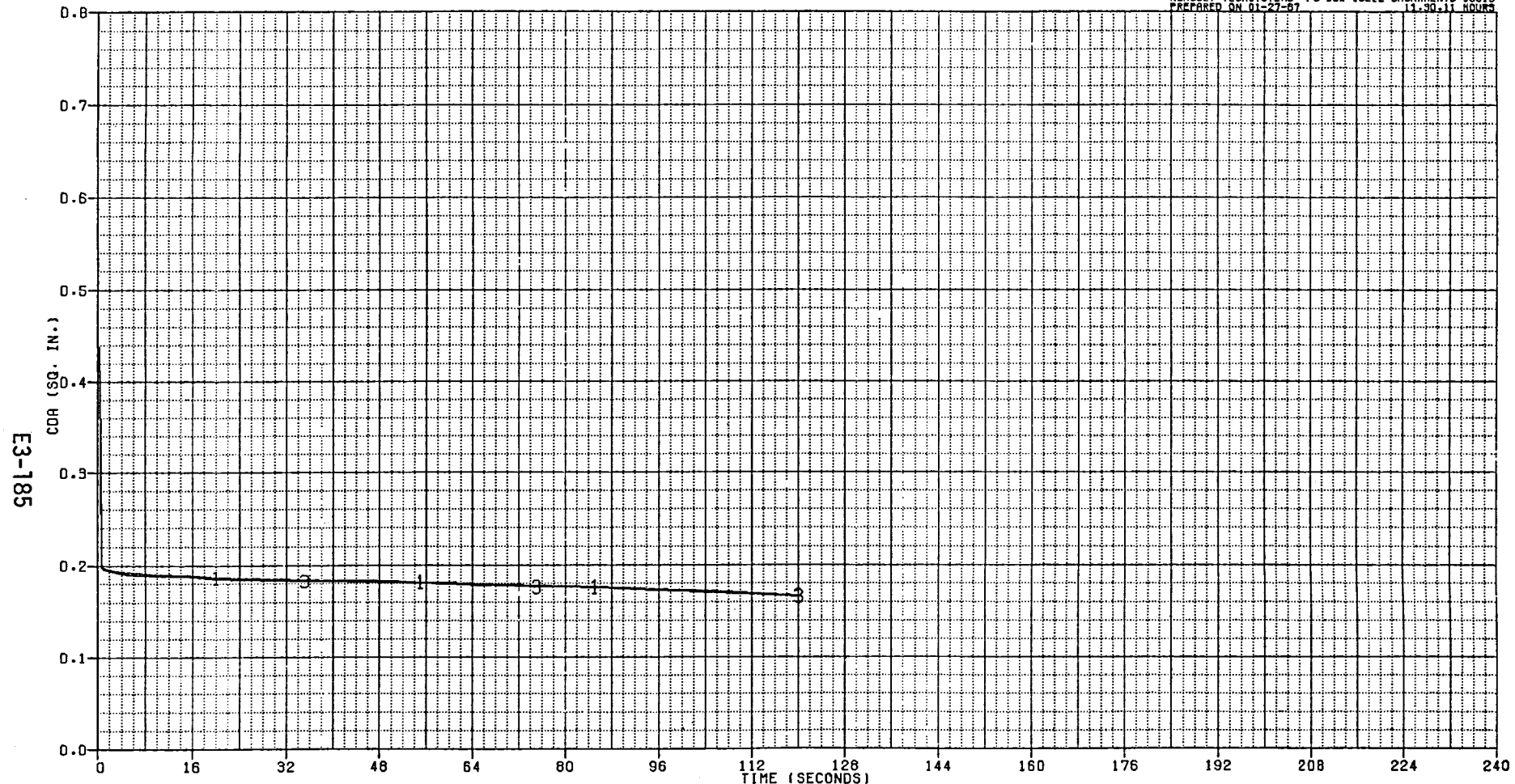


- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-160  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 11-19-85 1913 HOURS AVERAGED DATA

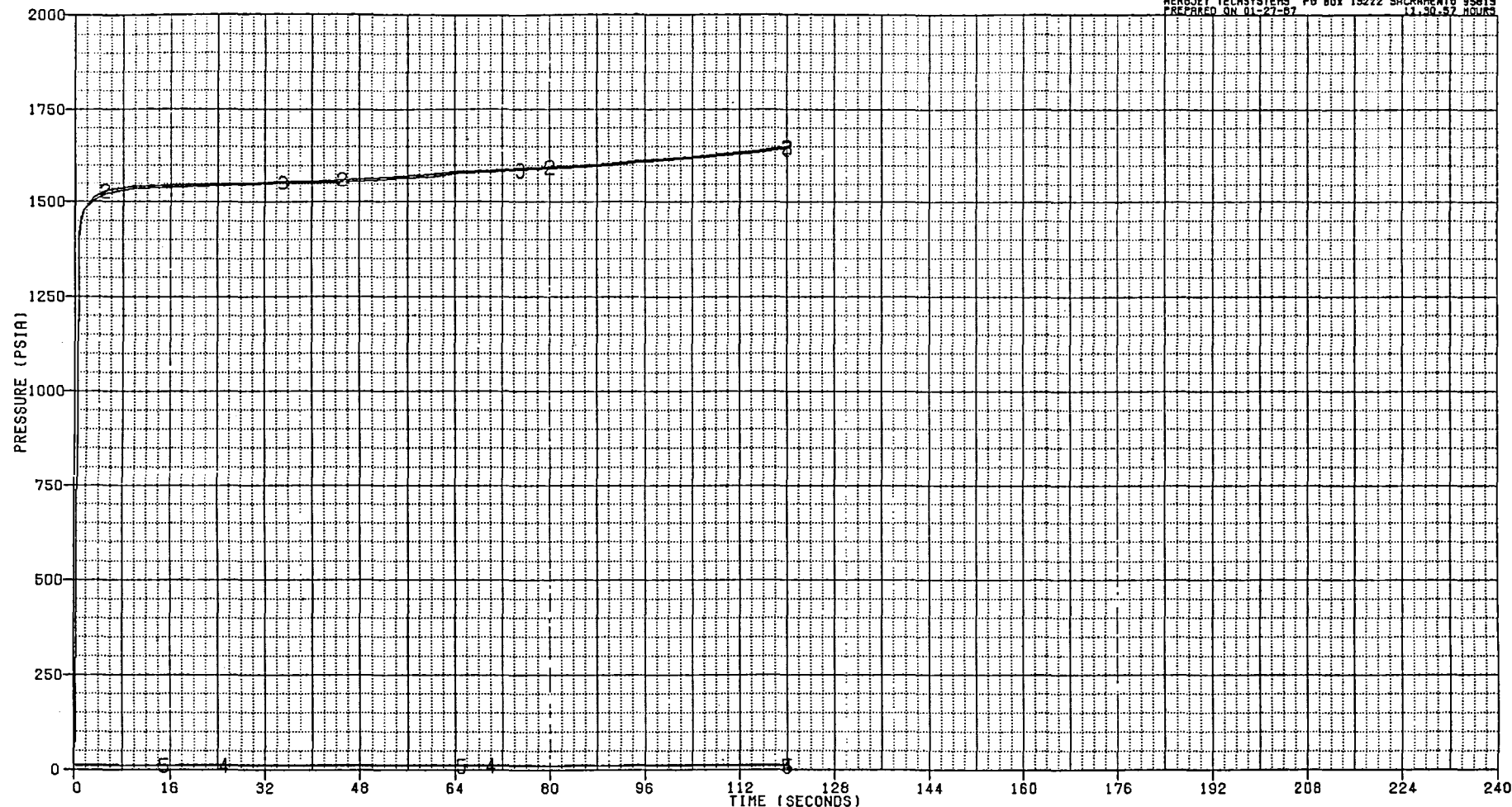


1 NR1 SQ. IN.  
 2 NR2 SQ. IN.  
 3 COA

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-936-A6-160  
 NOZZLE AREA CHANGE  
 TEST DATE 11-19-85 1913 HOURS AVERAGED DATA

981-33

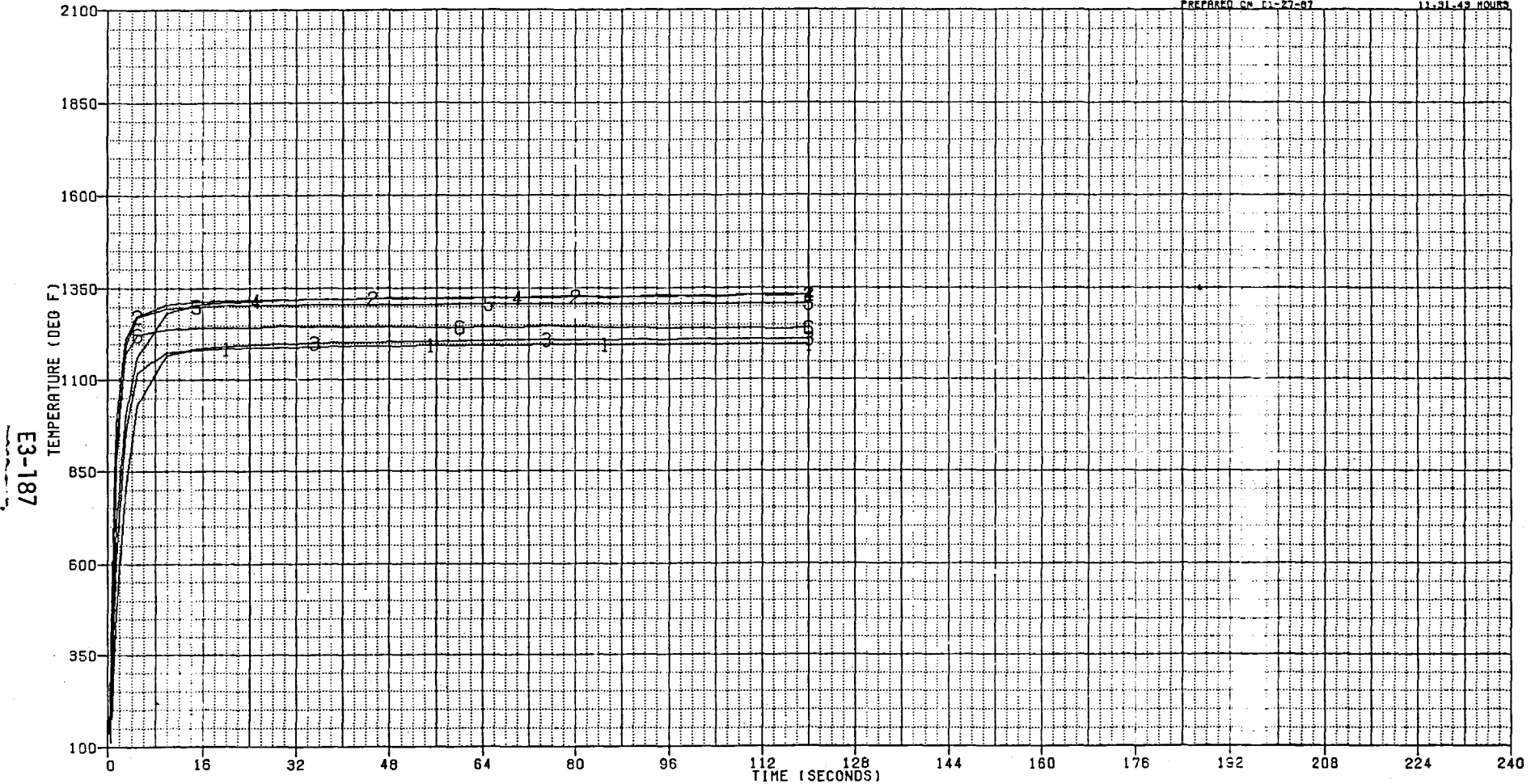
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 01-27-87 11:30:57 HOURS



- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA

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**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-936-A6-160  
PRESSURE MEASUREMENTS  
TEST DATE 11-19-85 1913 HOURS AVERAGED DATA

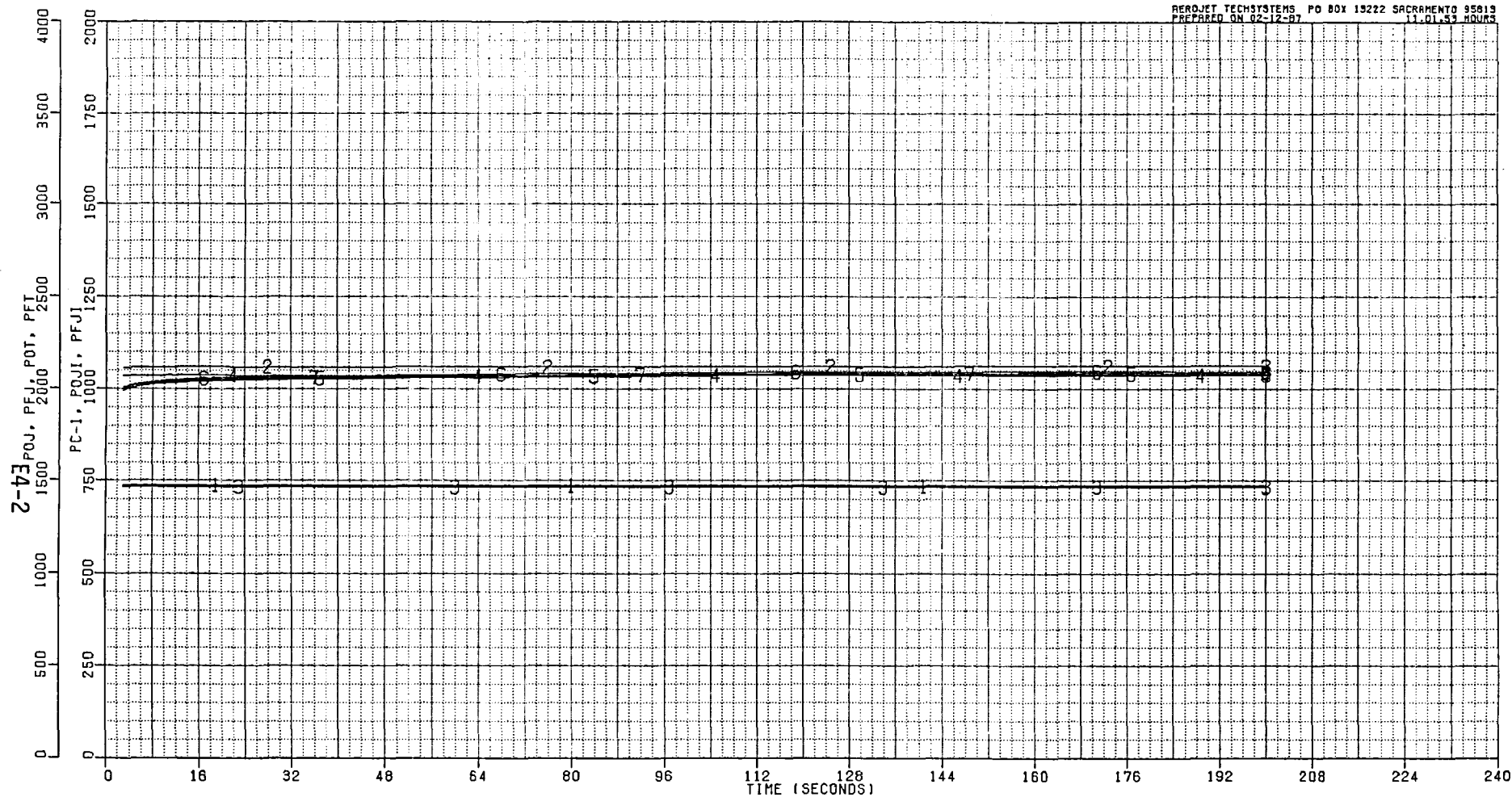


- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F

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**TechSystems**  
 COMPANY

GAS TEMPERATURES VS TIME  
 TEST NO. 2427-936-A6-160  
 PRESSURE MEASUREMENTS  
 TEST DATE 11-19-85 1913 HOURS AVERAGED DATA

**APPENDIX E-4**  
**1986 LO<sub>2</sub>/PROPANE**  
**GAS GENERATOR DATA PLOTS**



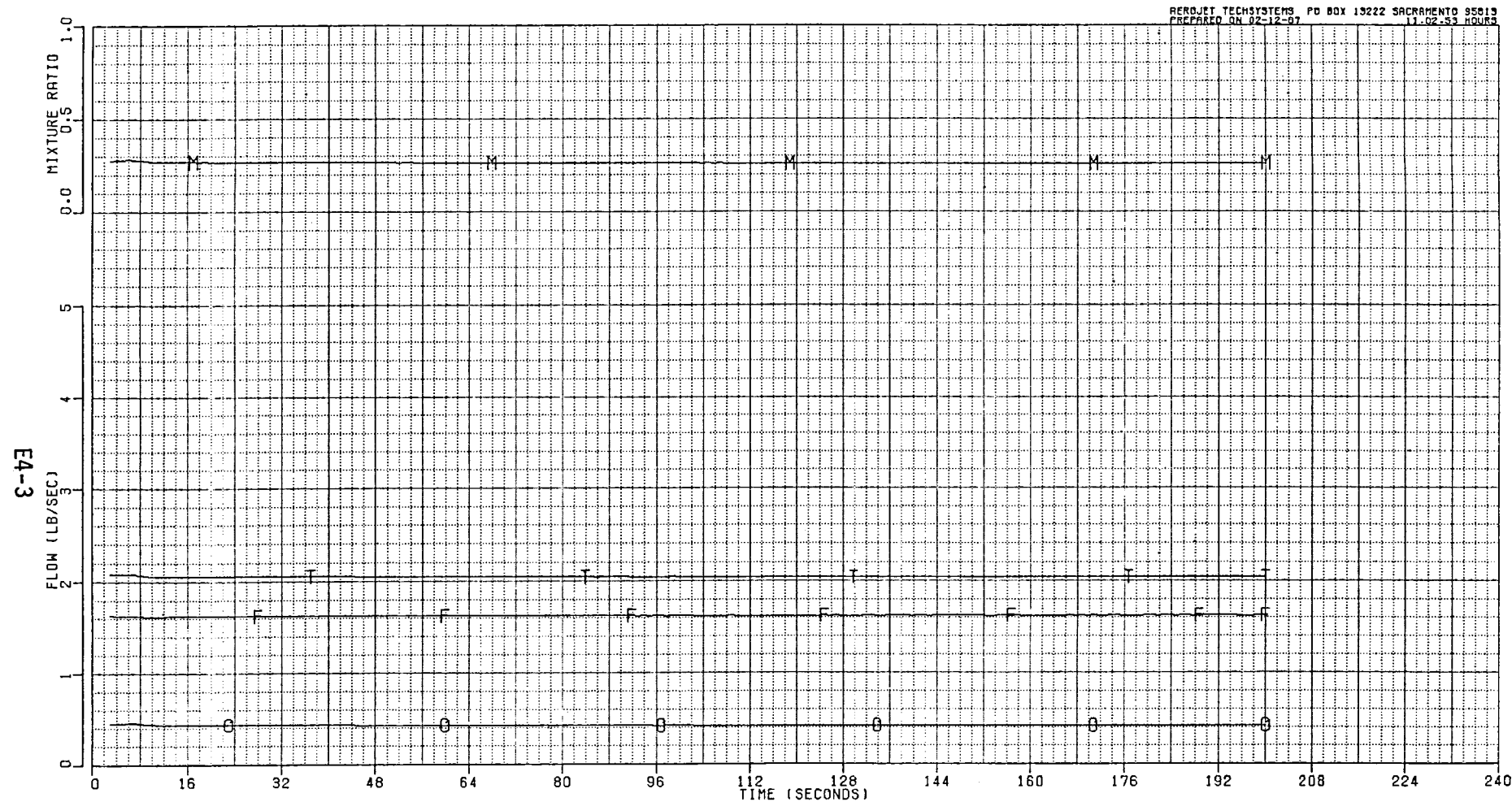
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-12-87 11.01.53 HOURS

1 POT PSIA  
 2 PFT PSIA  
 3 POJ PSIA  
 4 PFJ PSIA  
 5 PC-1 PSIA  
 6 POJI PSIA  
 7 PFJI PSIA

AEROJET  
 TechSystems  
 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-229-A6-113

TEST DATE 05-29-86 1252 HOURS

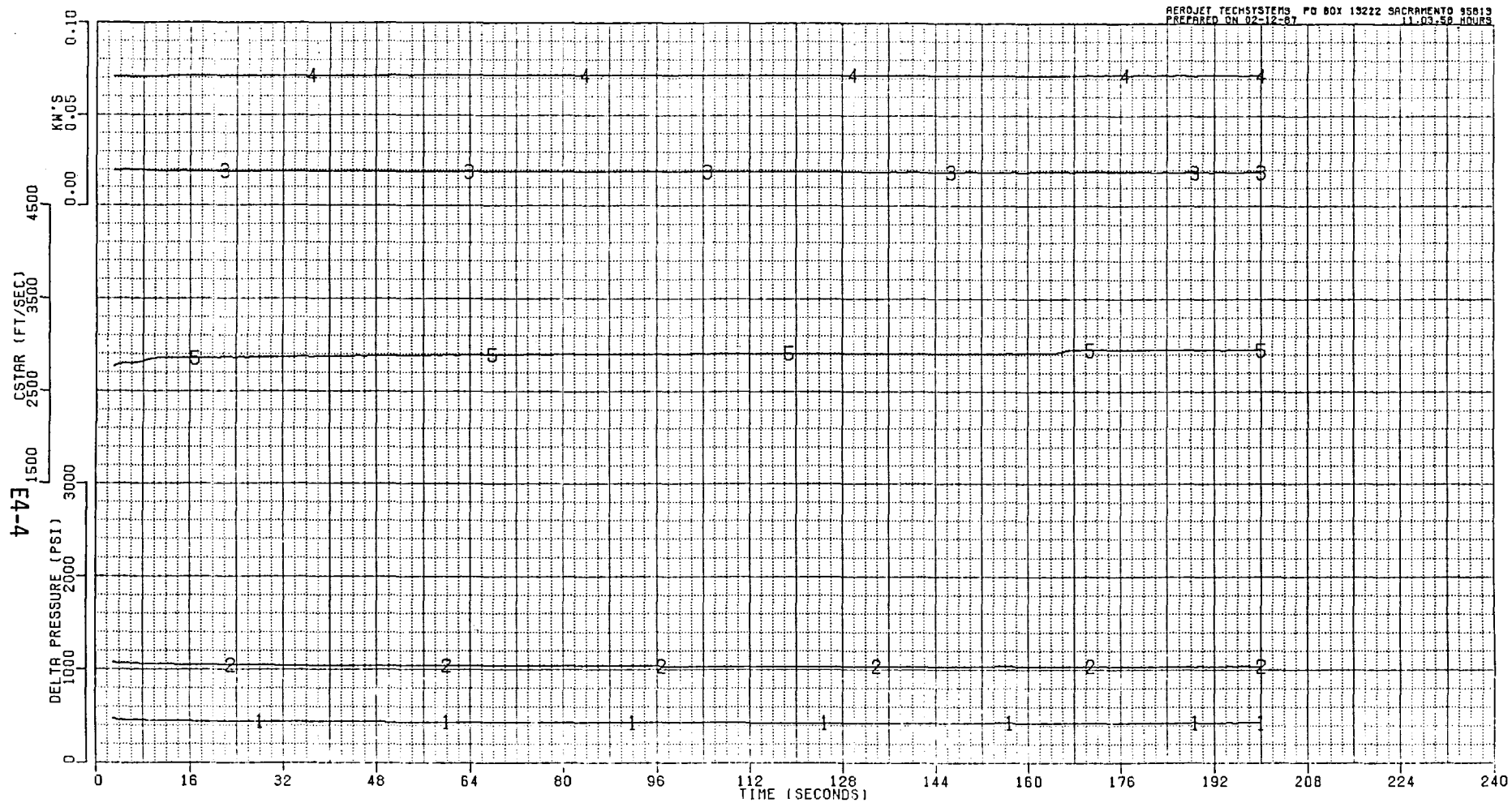


F WF LBS/SEC  
O WOX LBS/SEC  
T WTOT LBS/SEC  
M MR

INJECTOR FLOW VS TIME  
TEST NO. 2427-229-A6-113

TEST DATE 05-29-86 1252 HOURS

AEROJET  
**TechSystems**  
COMPANY

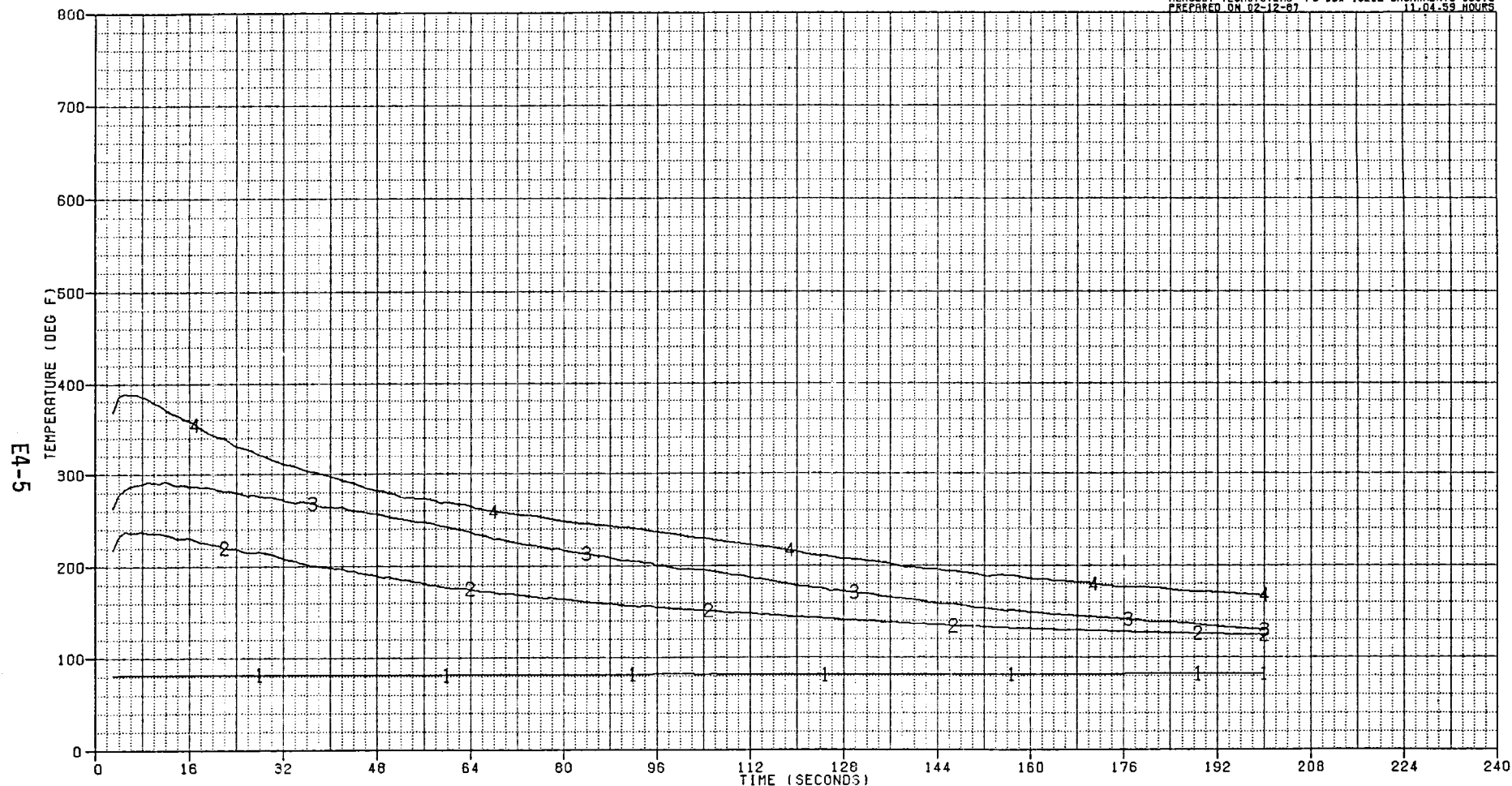


INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-229-A6-113

TEST DATE 02-12-87 11:03:56 HOURS

AEROJET  
**TechSystems**  
COMPANY

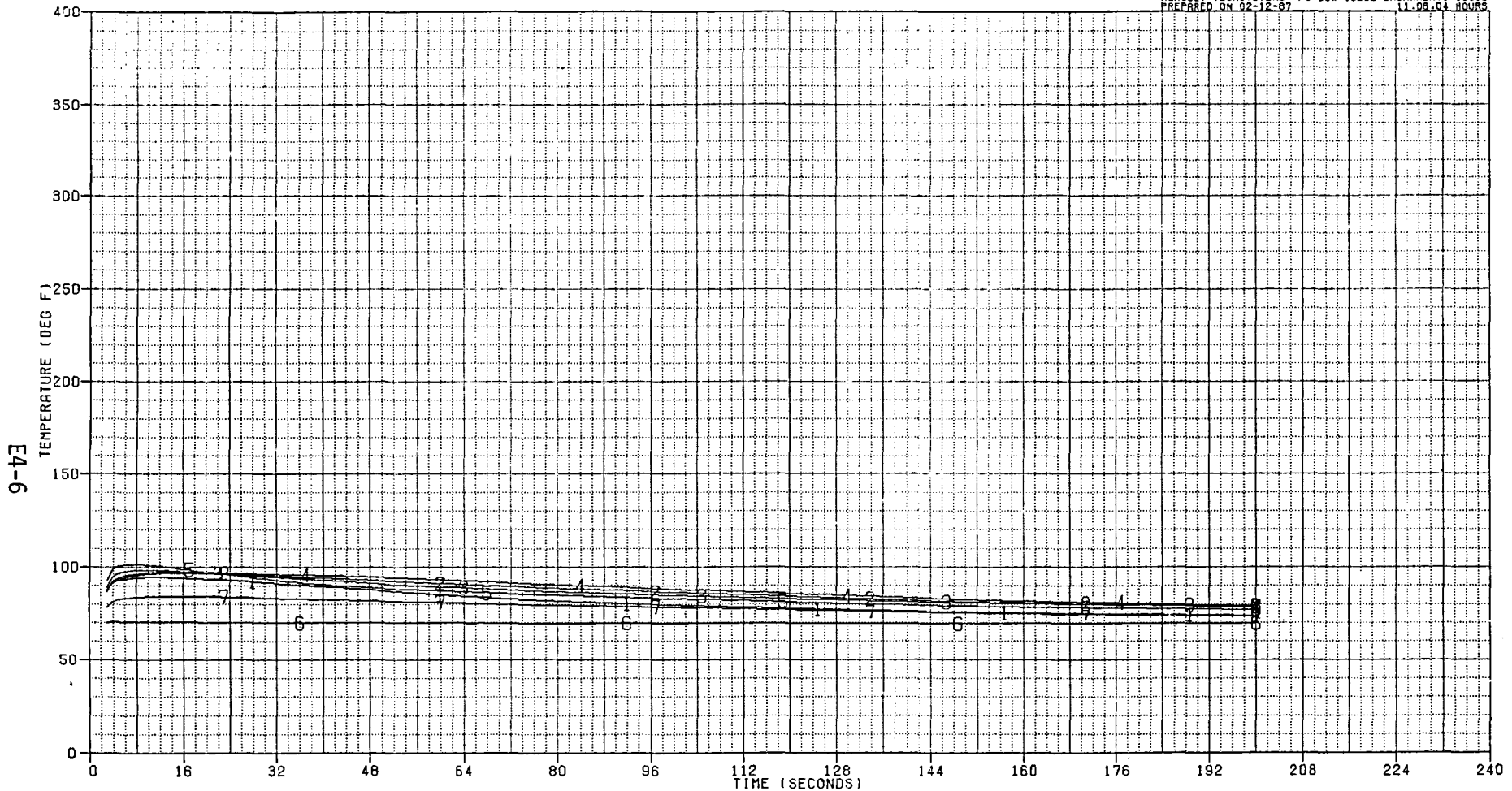




1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-113  
 BARREL DATA  
 TEST DATE 05-29-86 1252 HOURS

AEROJET  
**TechSystems**  
 COMPANY

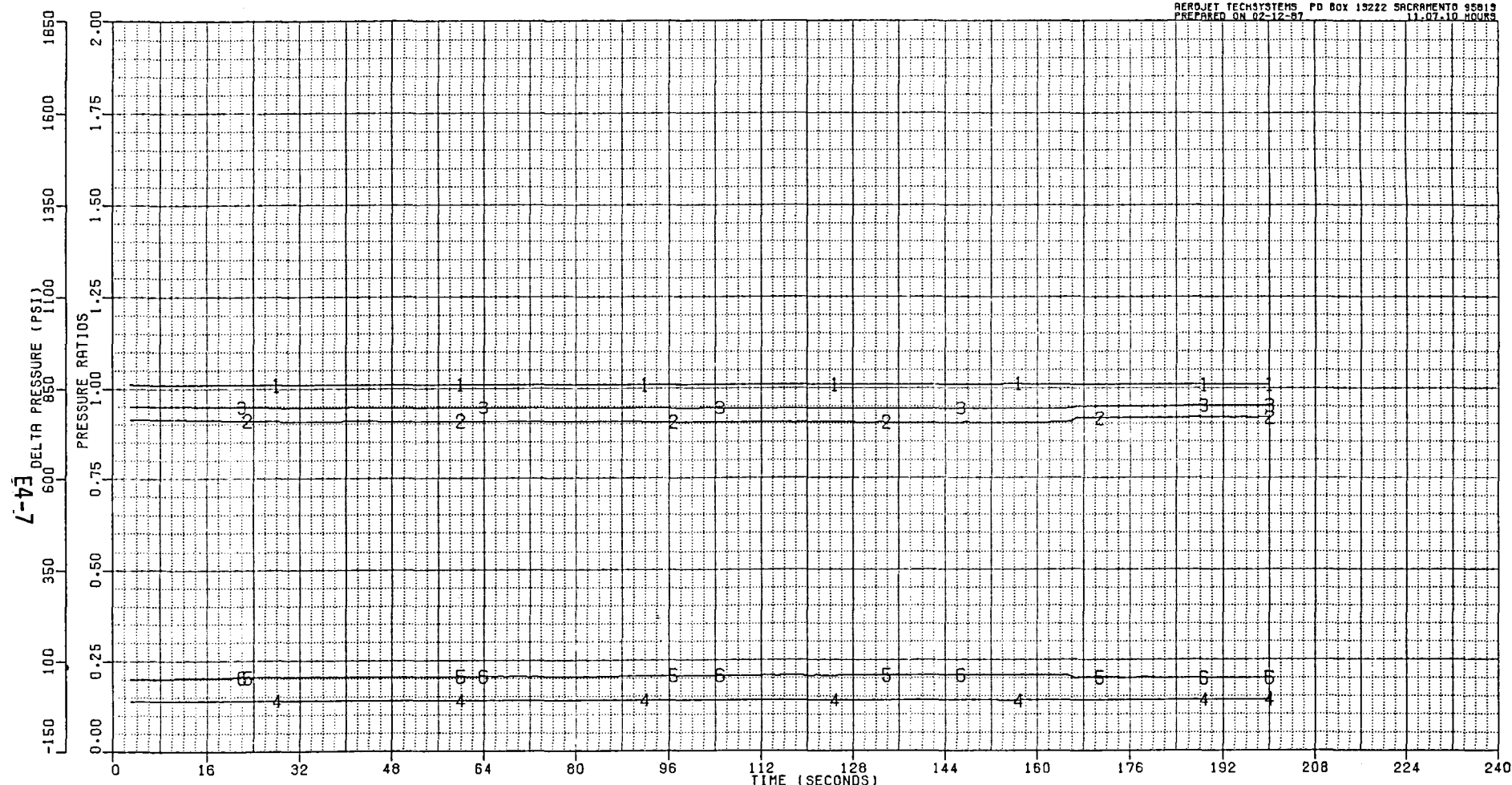


1 TWC-2 DEG F  
2 TWC-26 DEG F  
3 TWC-27 DEG F  
4 TWC-31 DEG F  
5 TWC-32 DEG F  
6 TWC-33 DEG F  
7 TC-7C DEG F



COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-113

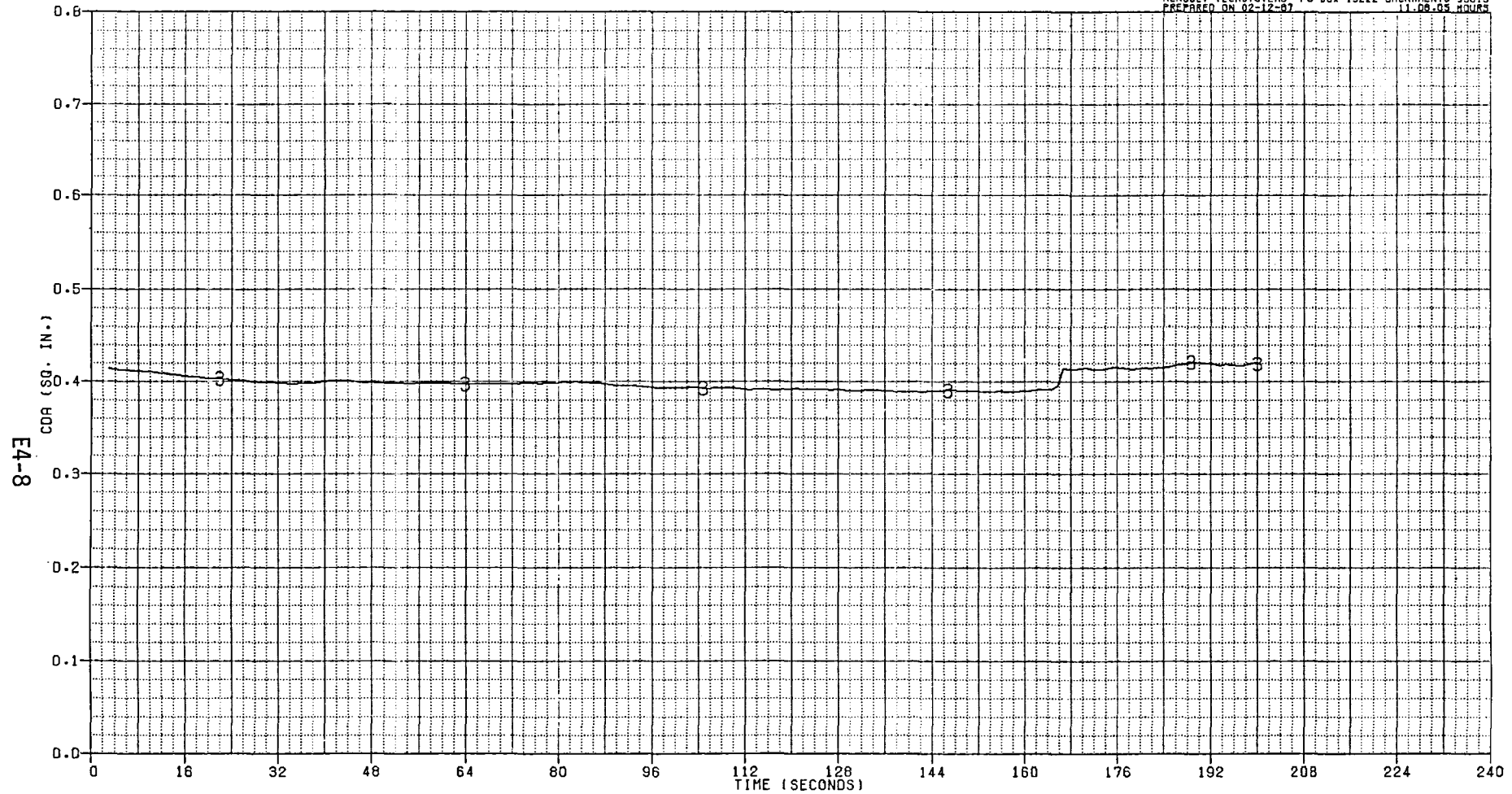
TEST DATE 05-29-86 1252 HOURS



- 1 PRTR
  - 2 PRTS
  - 3 PRTS CORR
  - 4 QPTR
  - 5 DPTS-C
  - 6 DPTS
- PSI  
 PSI  
 PSI

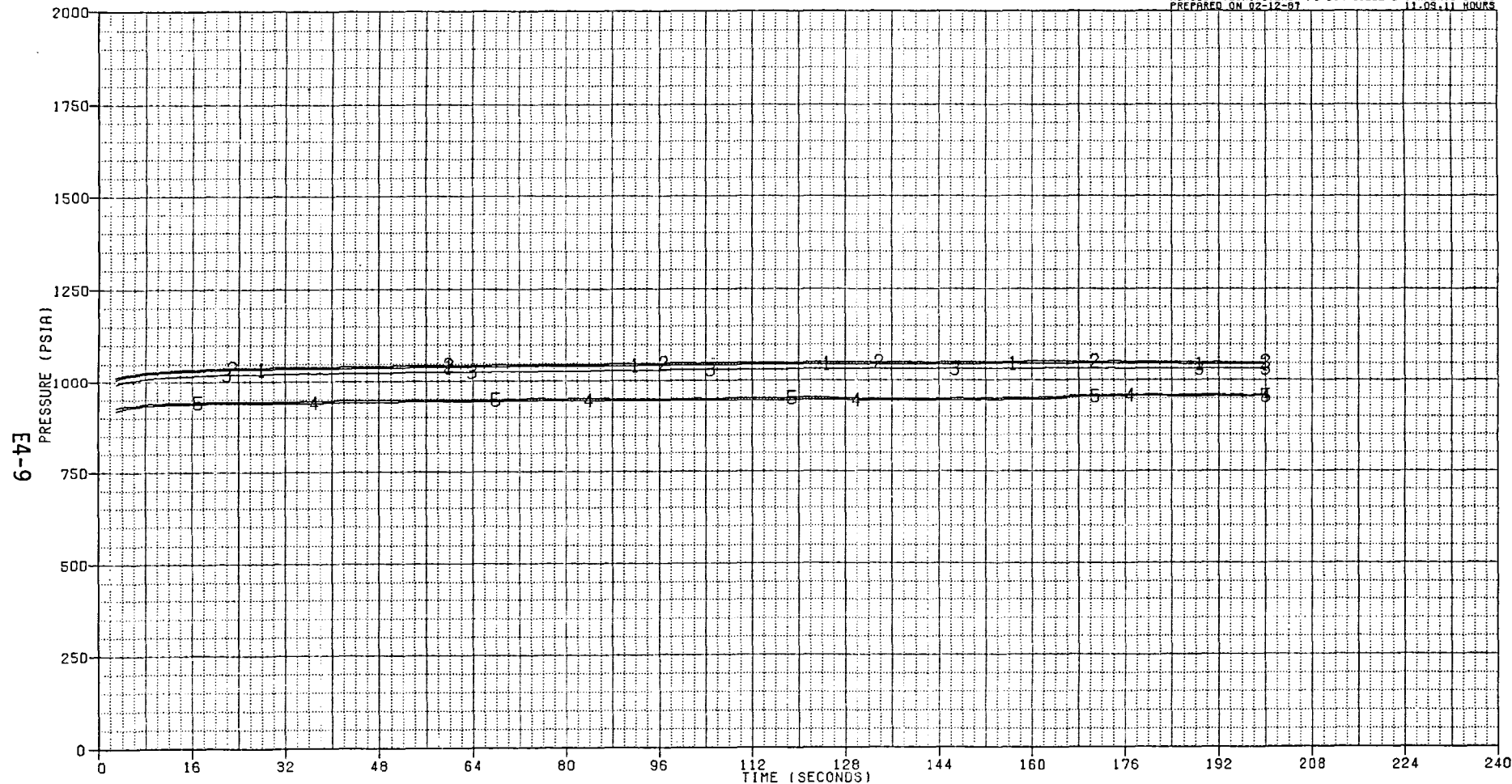


TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-113  
 CHAMBER PRESSURE DROPS AND RATIOS  
 TEST DATE 05-29-86 1252 HOURS



1 NR1 SQ. IN.  
2 NR2 SQ. IN.  
3 CDA

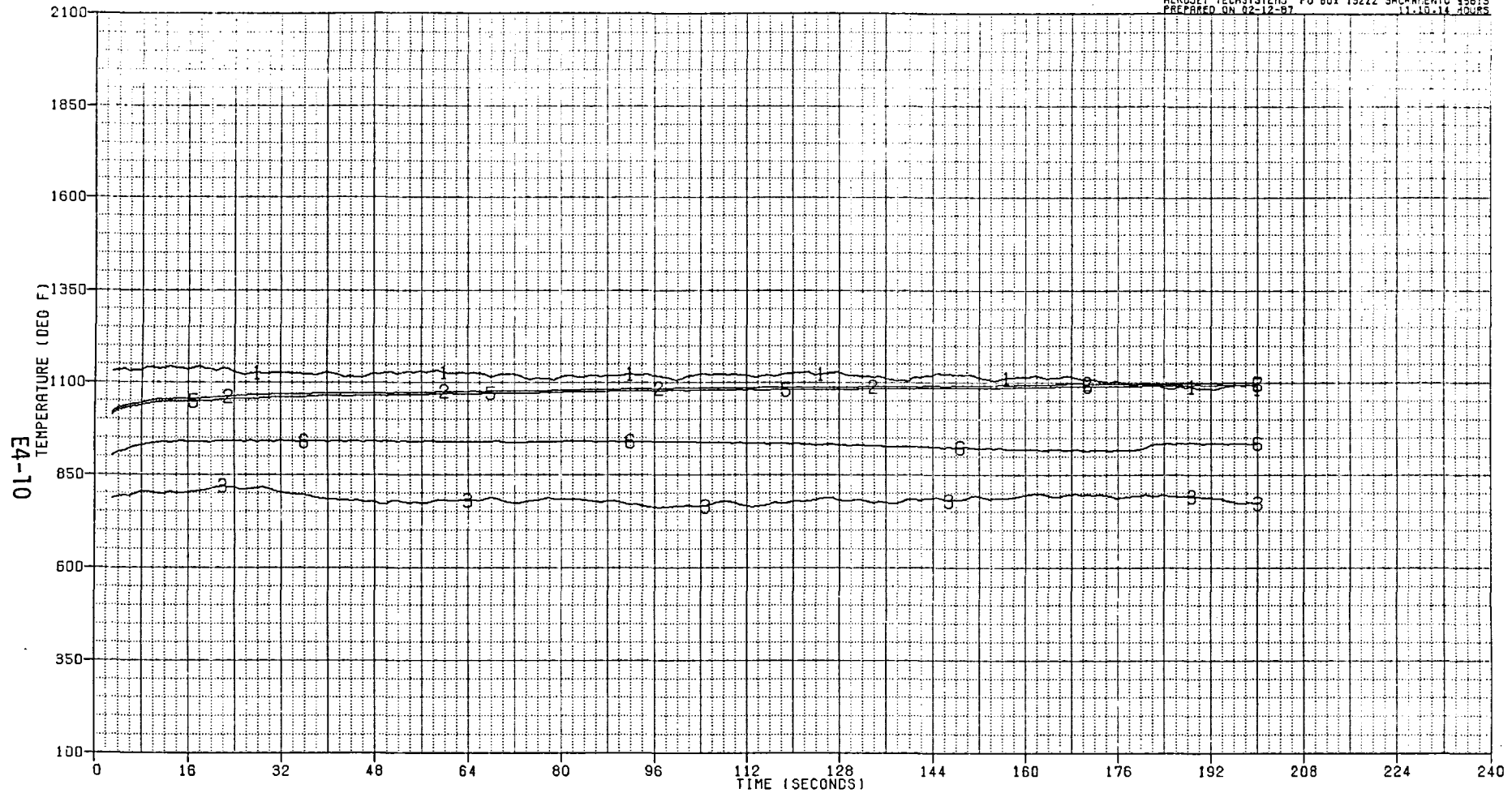
TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-113  
NOZZLE AREA CHANGE  
TEST DATE 05-29-86 1252 HOURS



- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-113  
 PRESSURE MEASUREMENTS  
 TEST DATE 05-29-86 1252 HOURS

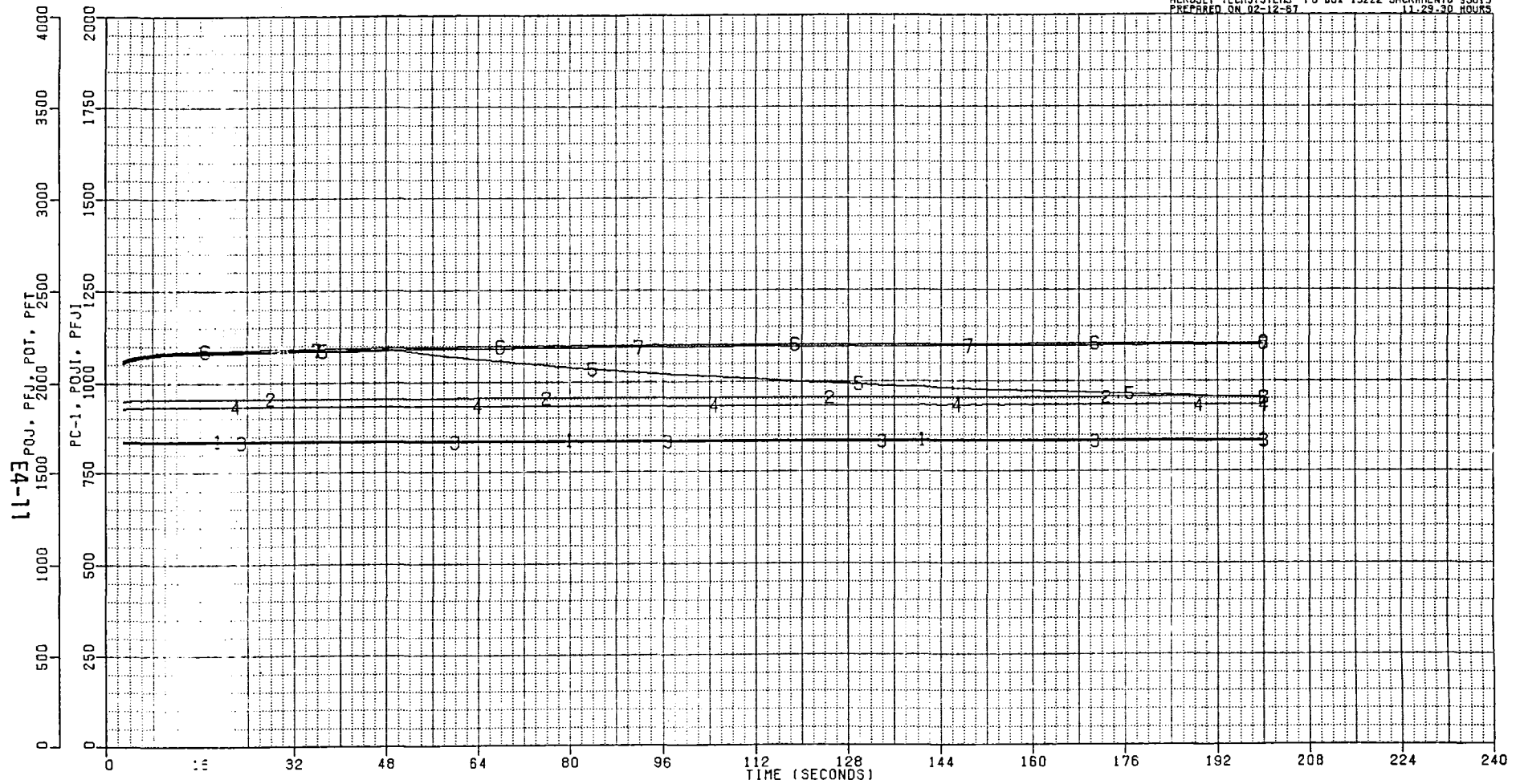




- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-113  
PRESSURE MEASUREMENTS  
TEST DATE 05-29-86 1252 HOURS



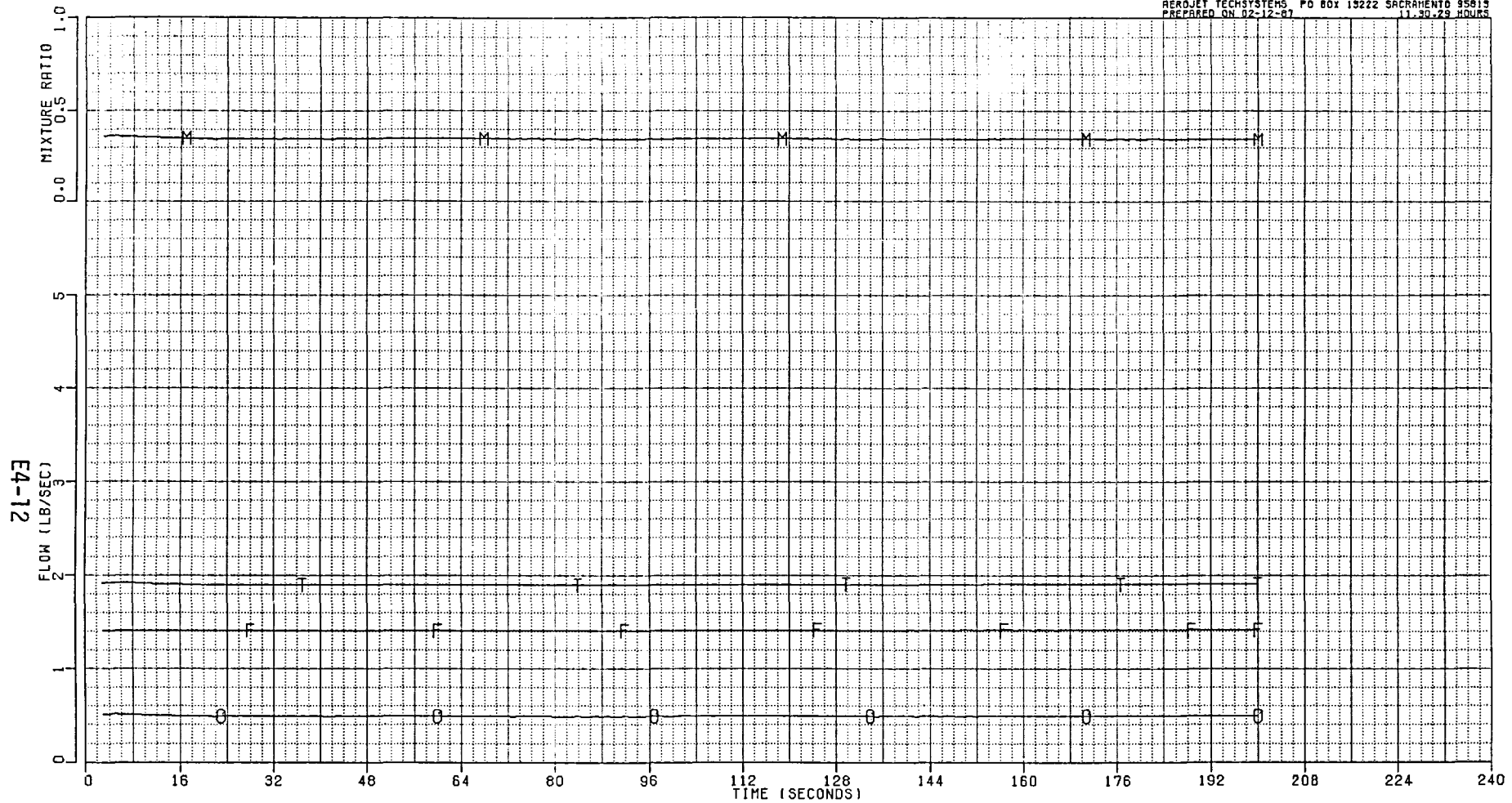
- 1 POT PFT
- 2 PFT PFT
- 3 POJ PFT
- 4 PFJ PFT
- 5 PC-1 PFT
- 6 POJI PFT
- 7 PFJI PFT

AEROJET  
**@TechSystems**  
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MEASURED PRESSURES VS TIME  
 TEST NO. 2427-229-A6-114

TEST DATE 05-29-86 1500 HOURS





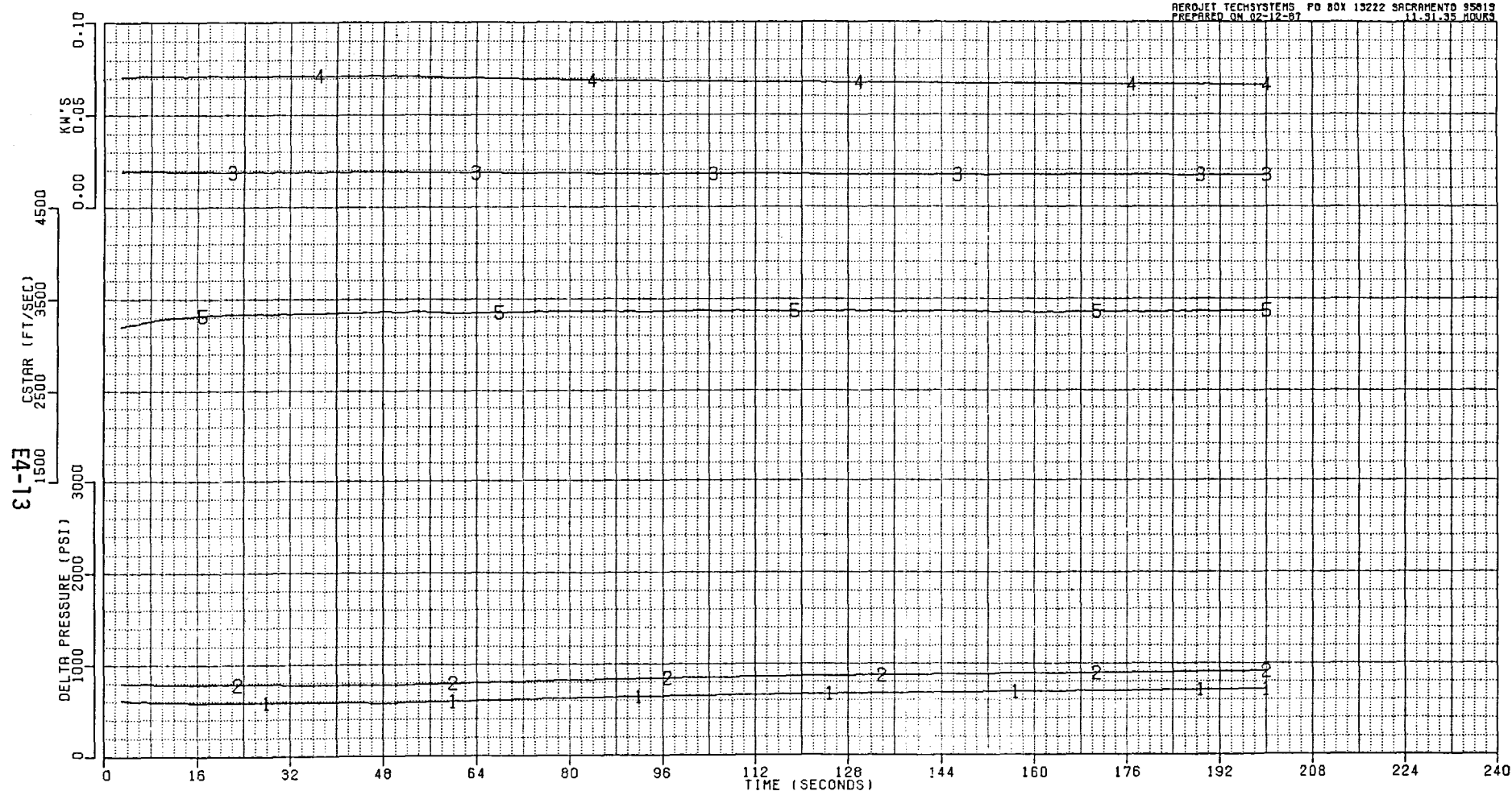
F WF LBS/SEC  
 O WDX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-114

TEST DATE 05-29-86 1500 HOURS



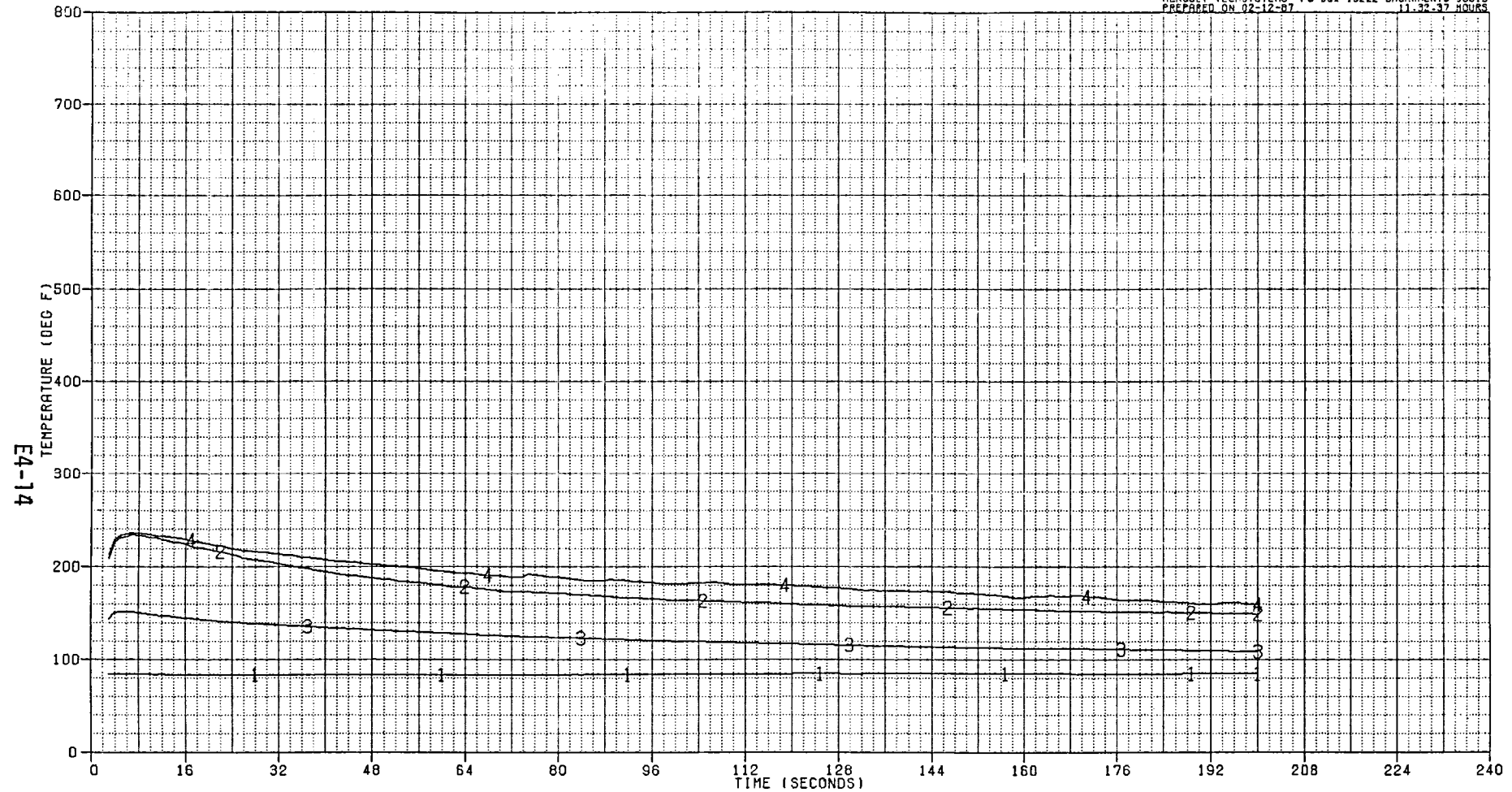




INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-229-A6-114

TEST DATE 05-29-86 1500 HOURS

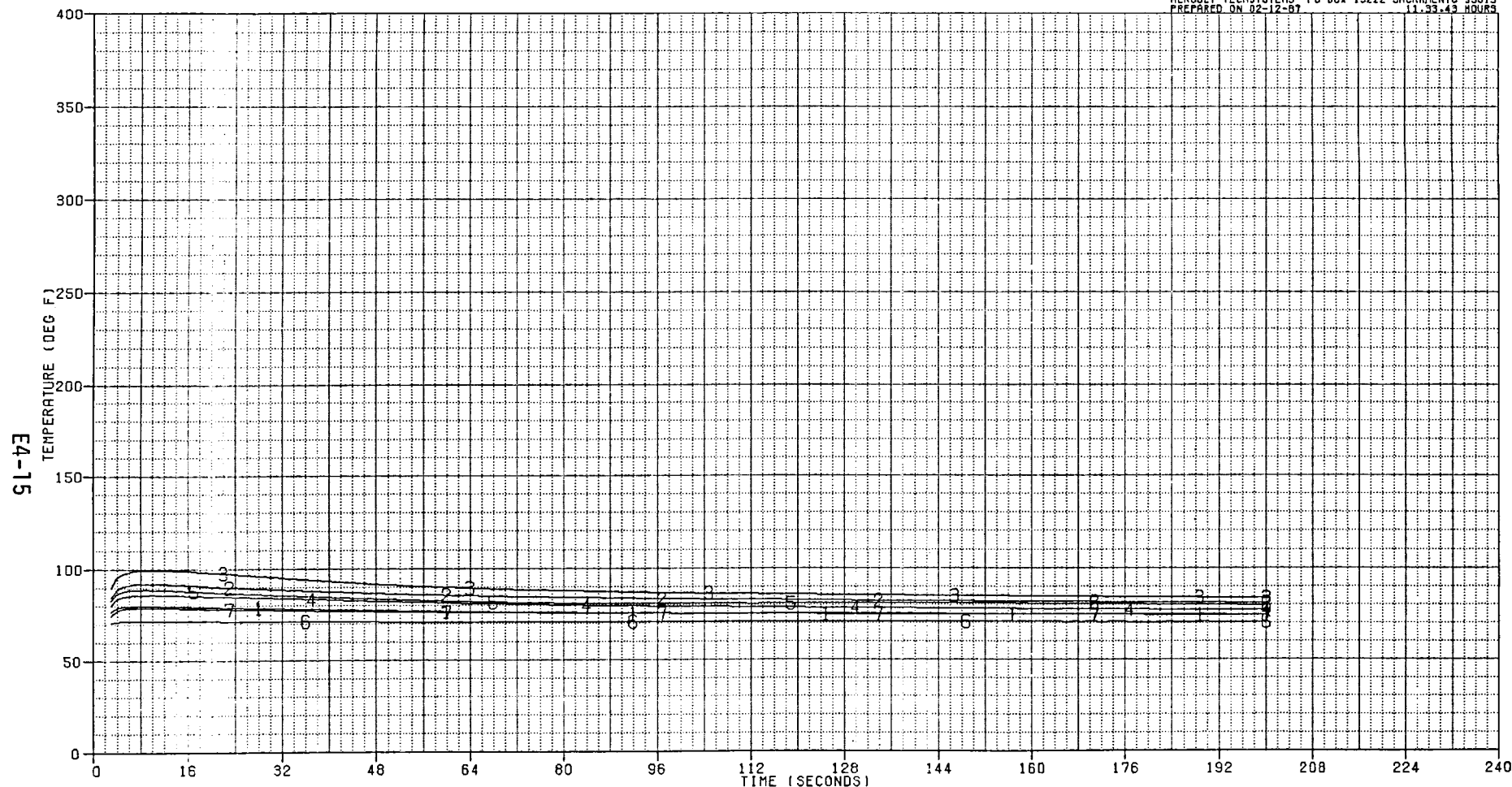
AEROJET  
**TechSystems**  
 COMPANY



1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-114  
 BARREL DATA  
 TEST DATE 05-29-86 1500 HOURS

AEROJET  
**TechSystems**  
 COMPANY

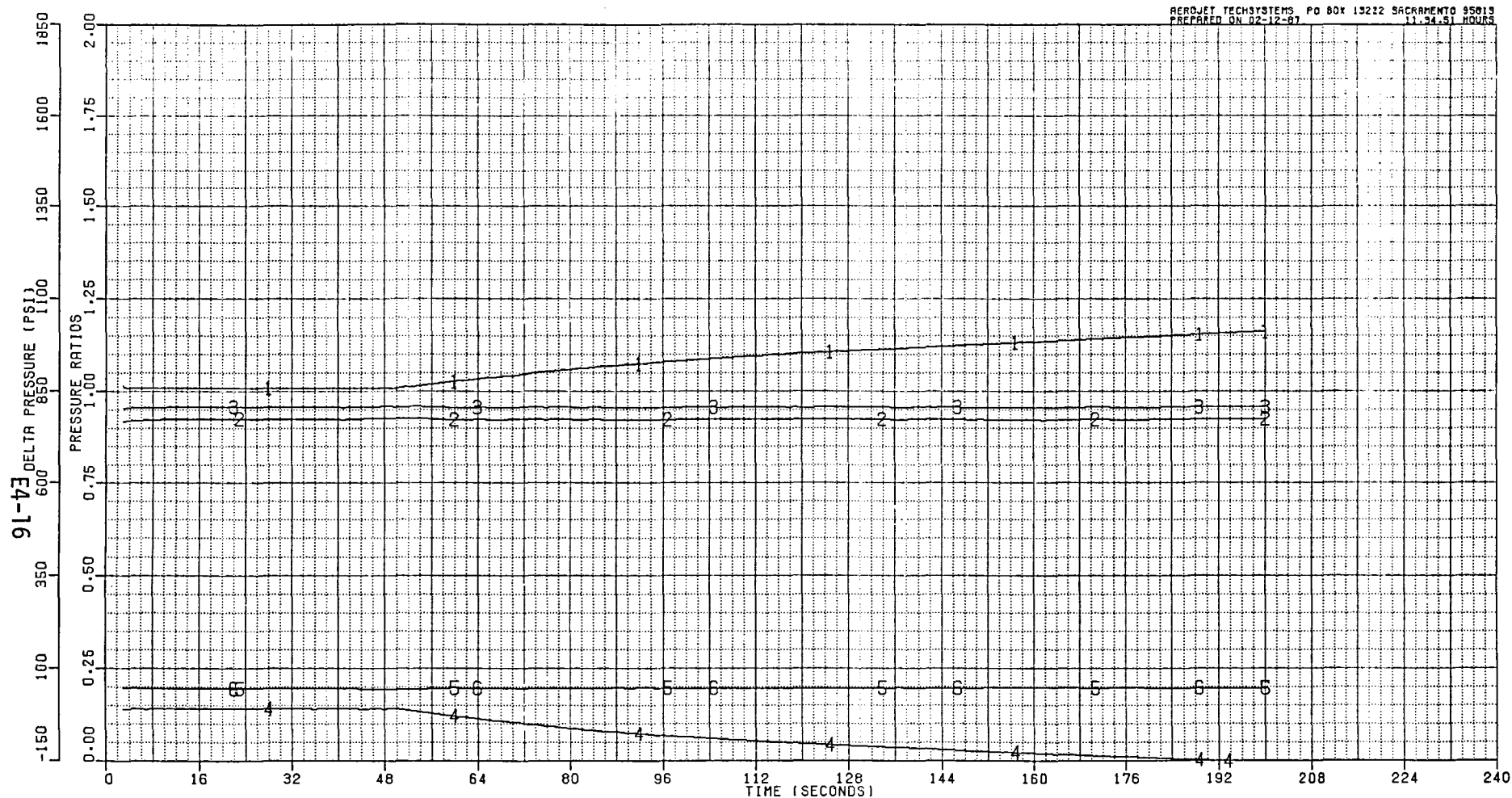


- |          |       |
|----------|-------|
| 1 TWC-2  | DEG F |
| 2 TWC-26 | DEG F |
| 3 TWC-27 | DEG F |
| 4 TWC-31 | DEG F |
| 5 TWC-32 | DEG F |
| 6 TWC-33 | DEG F |
| 7 TC-7C  | DEG F |

AEROJET  
**TechSystems**  
 COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-114

TEST DATE 05-29-86 1500 HOURS



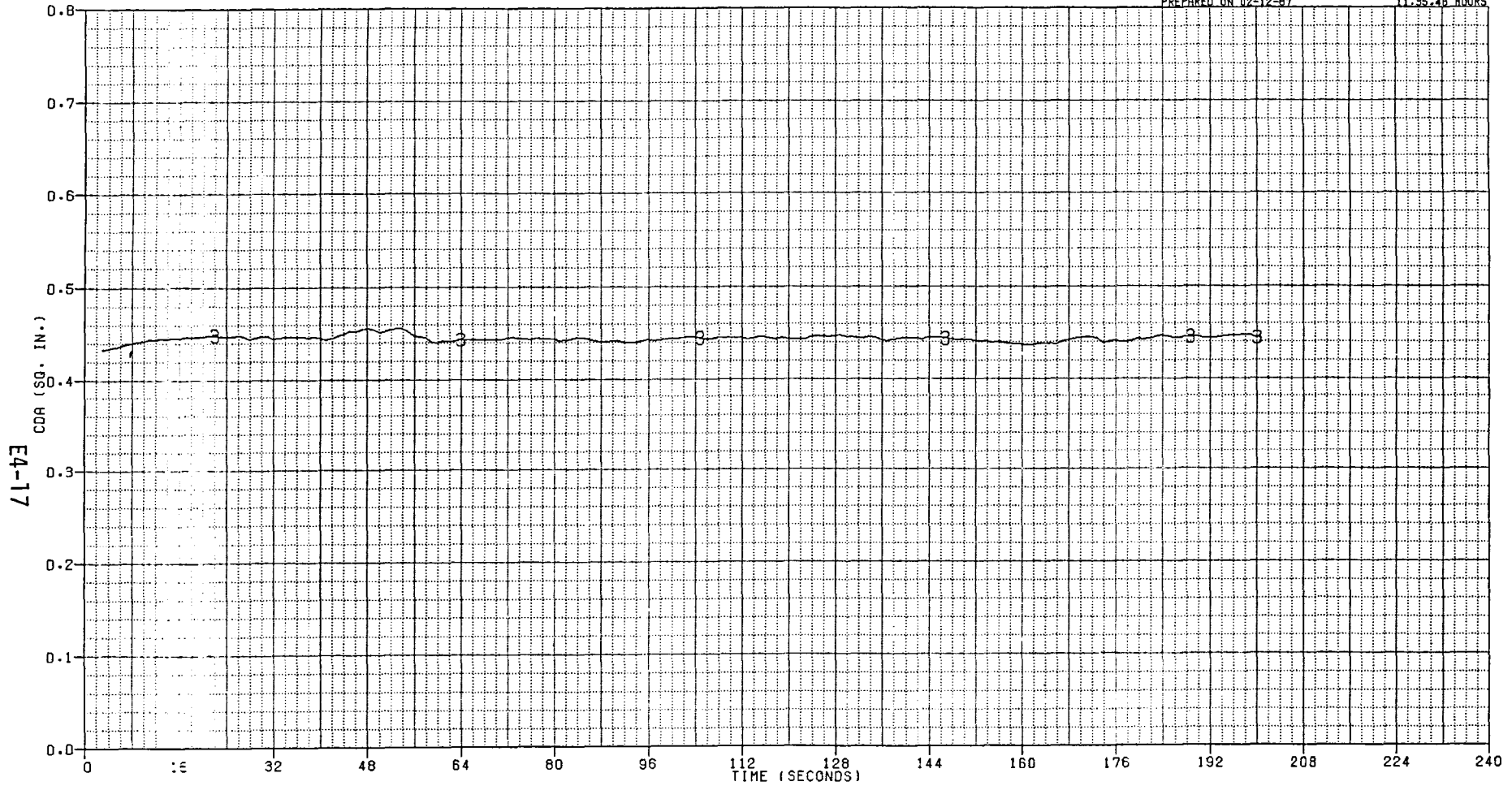
- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-114  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 05-29-86 1500 HOURS

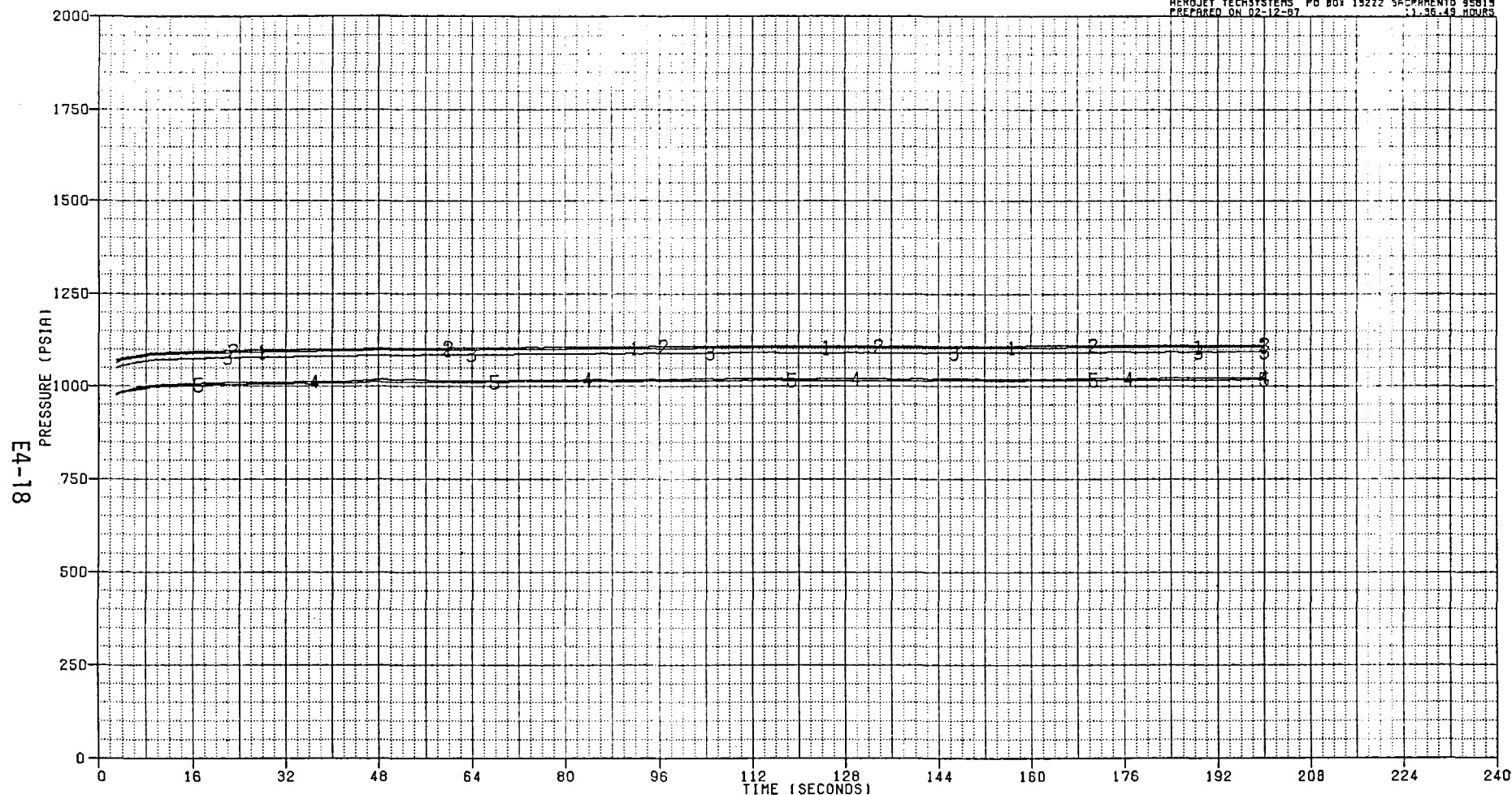
AEROJET TECHSYSTEMS PO BOX 19222 SACRAMENTO 95819  
PREPARED ON 02-12-87 11:55:49 HOURS



1 NR1 SC-IN.  
2 NR2 SC-IN.  
3 CDR

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-114  
NOZZLE AREA CHANGE  
TEST DATE 05-29-86 1500 HOURS

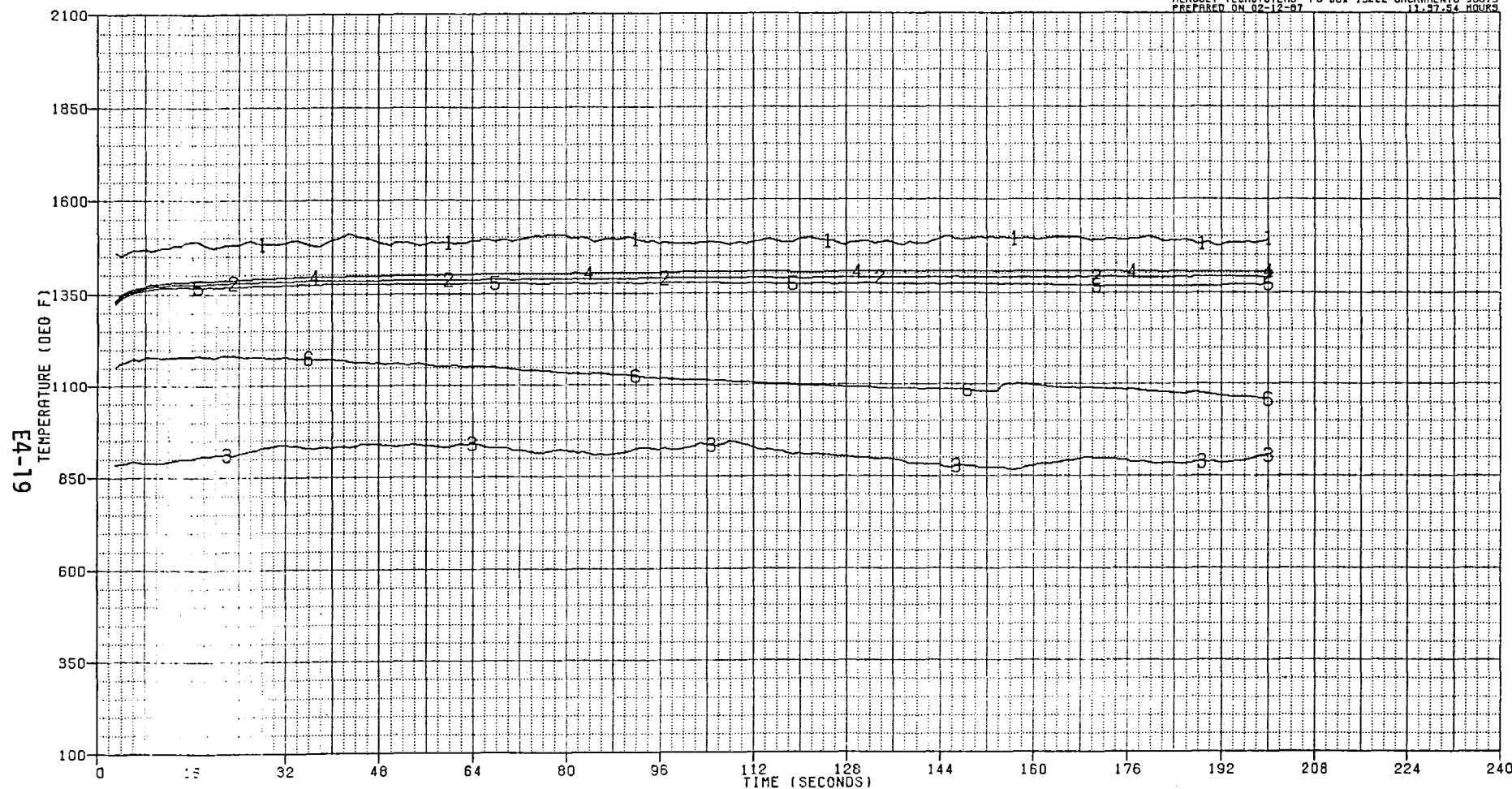
AEROJET  
@TechSystems  
COMPANY



- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA

AEROJET  
**TechSystems**  
 COMPANY

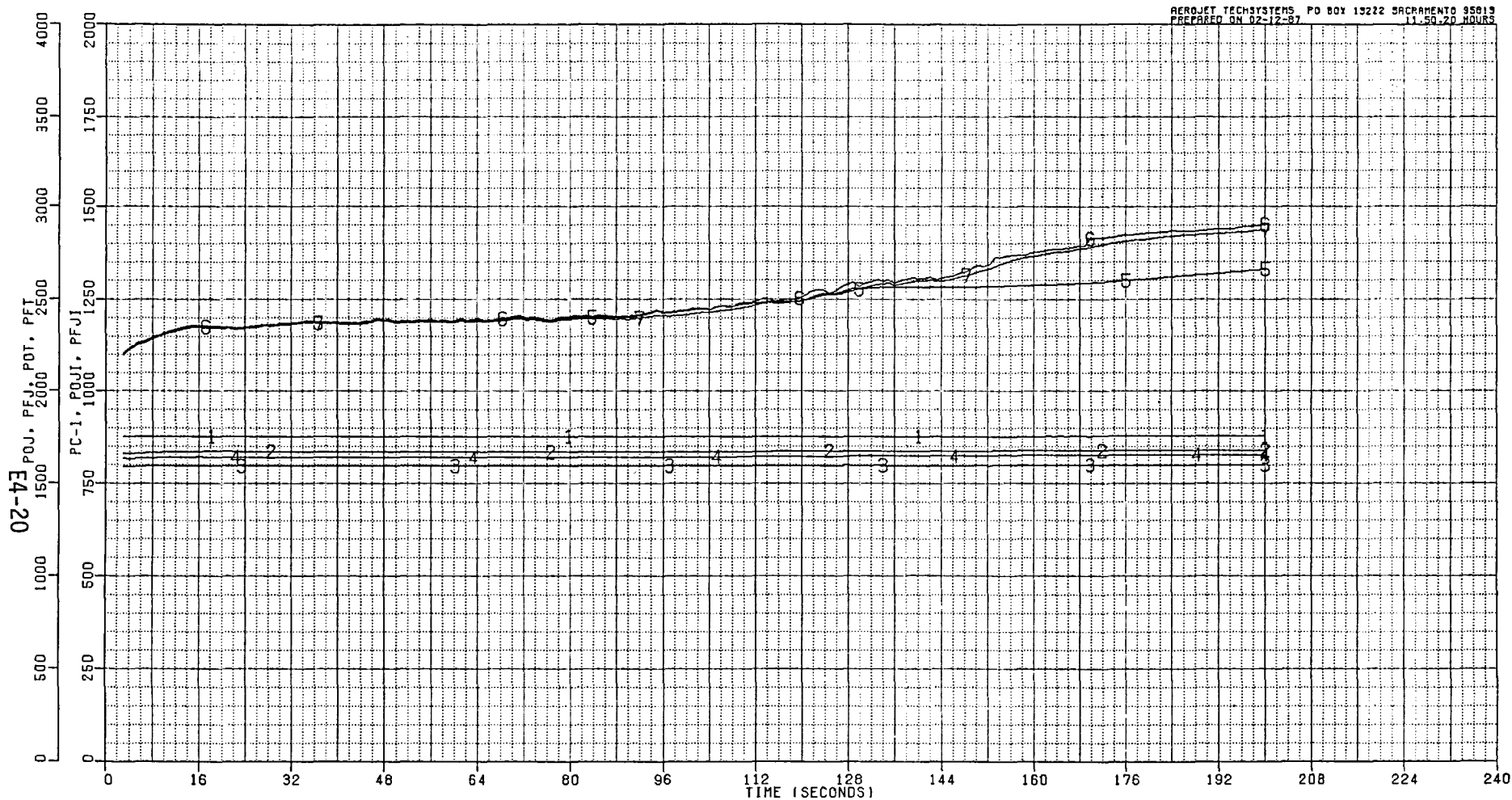
TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-114  
 PRESSURE MEASUREMENTS  
 TEST DATE 05-29-86 1500 HOURS



- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F

AEROJET  
**TechSystems**  
 COMPANY

GAS TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-114  
 PRESSURE MEASUREMENTS  
 TEST DATE 05-29-86 1500 HOURS



1 PQT PSIA  
2 PFT PSIA  
3 POJ PSIA  
4 PFJ PSIA  
5 PC-1 PSIA  
6 POJI PSIA  
7 PFJI PSIA

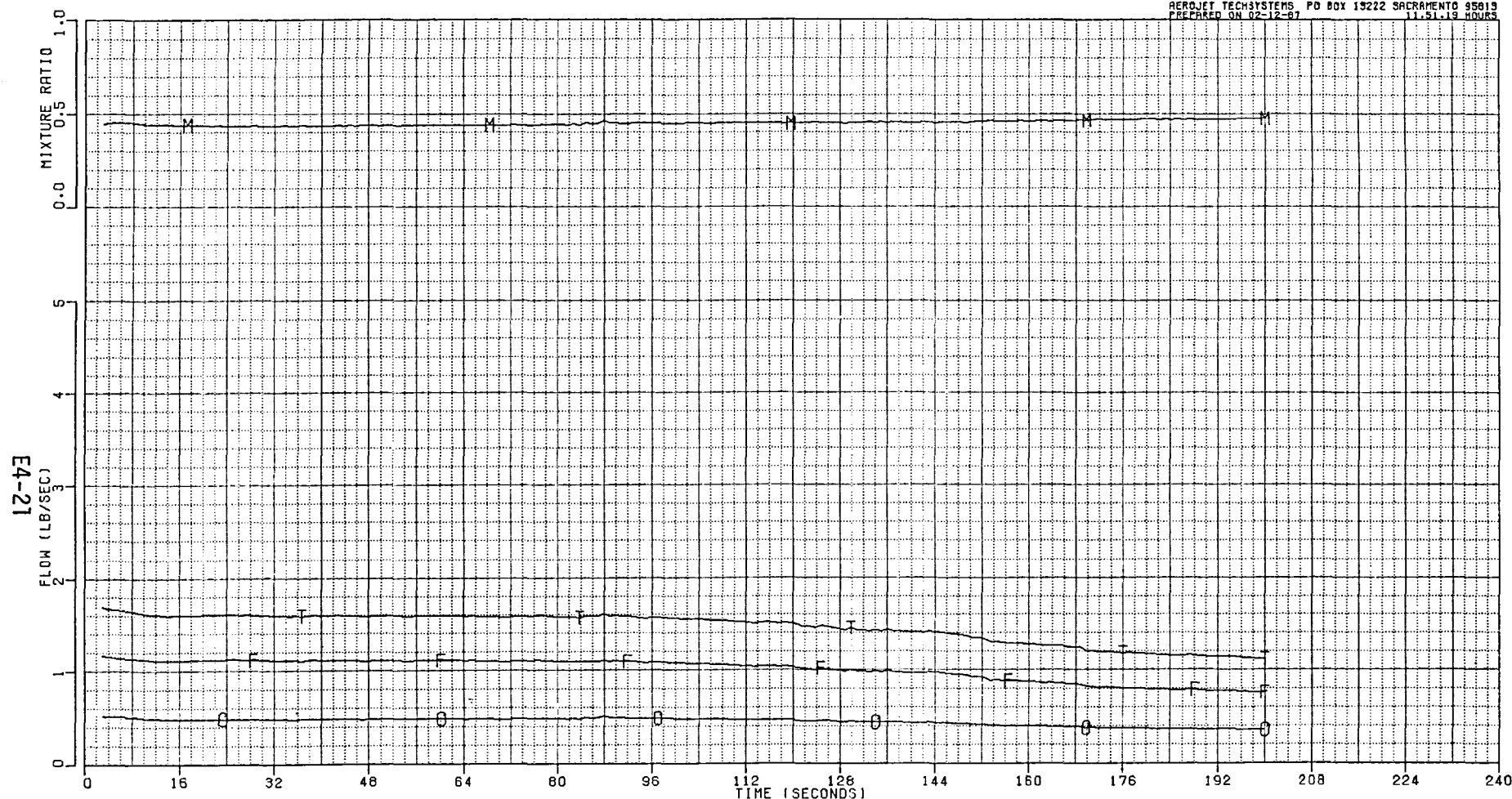
AEROJET  
**TechSystems**  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-229-A6-120

TEST DATE 05-30-86 0708 HOURS



AEROJET TECHSYSTEMS PO BOX 15222 SACRAMENTO 95813  
 PREPARED ON 02-12-87 11:51:19 HOURS

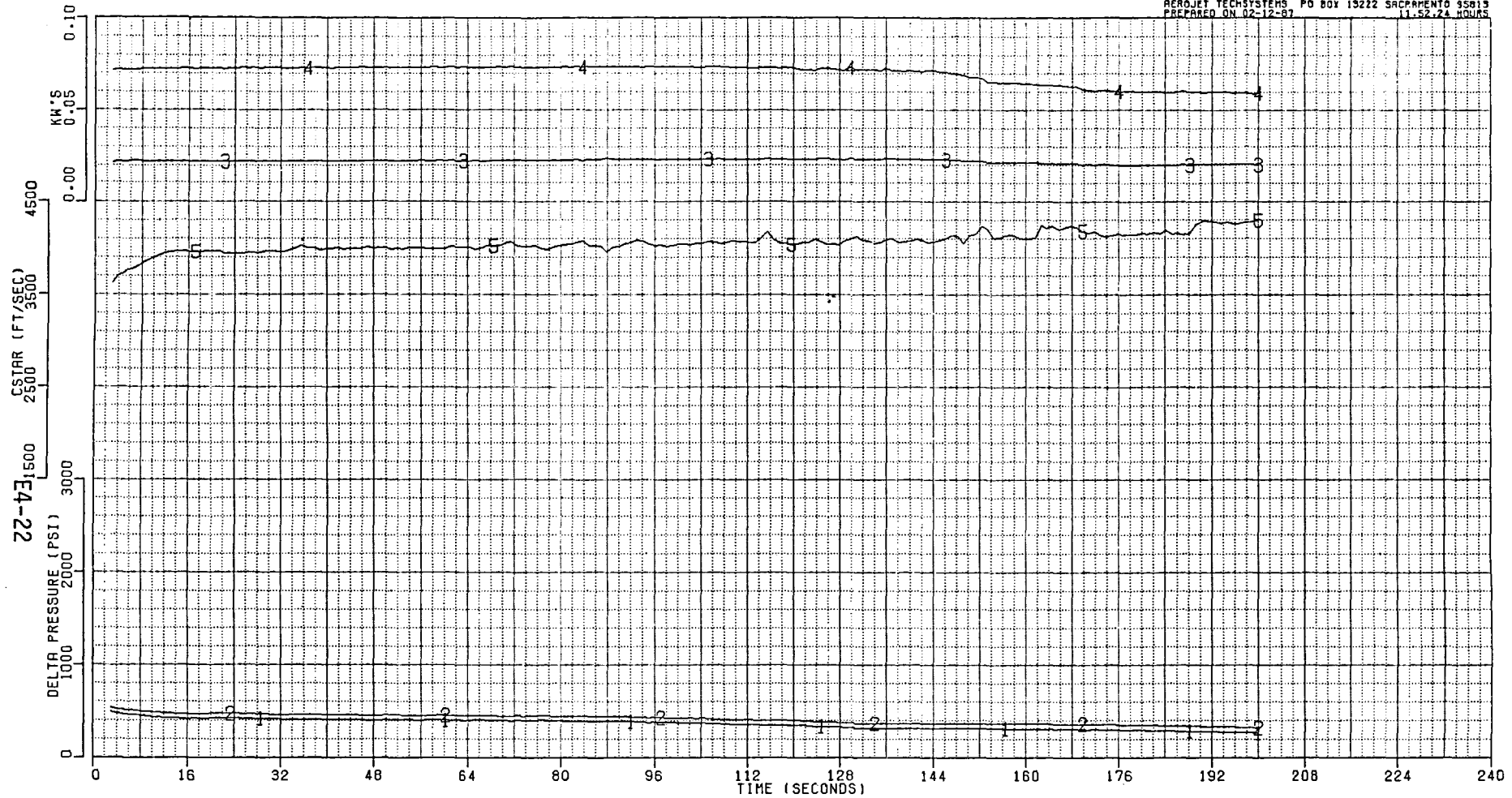


INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-120

TEST DATE 05-30-86 0708 HOURS

AEROJET  
 TechSystems  
 COMPANY

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-12-87 11:52:24 HOURS

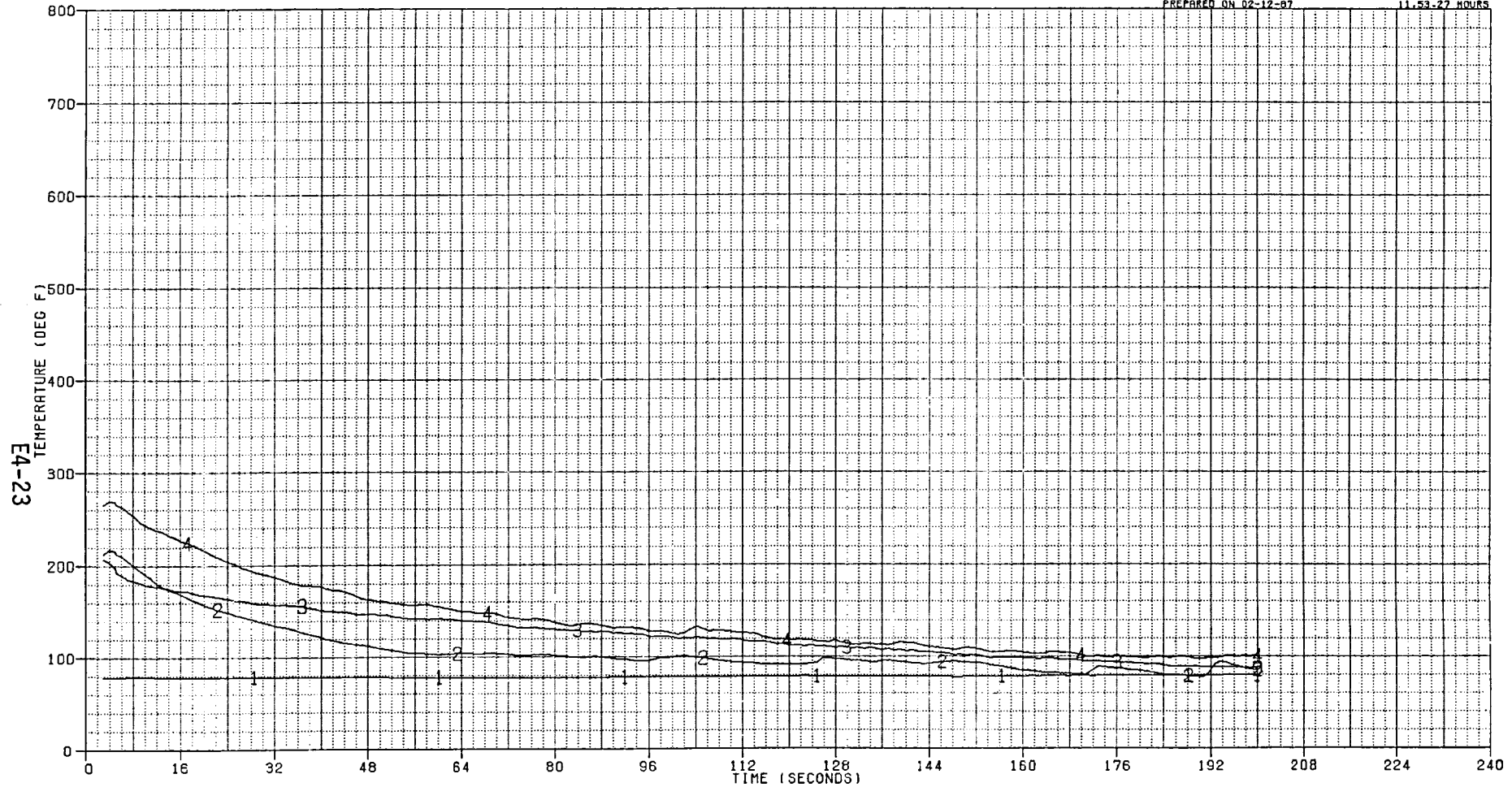


- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ PSI
- 4 KWFJ PSI
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

AEROJET  
**TechSystems**  
 COMPANY

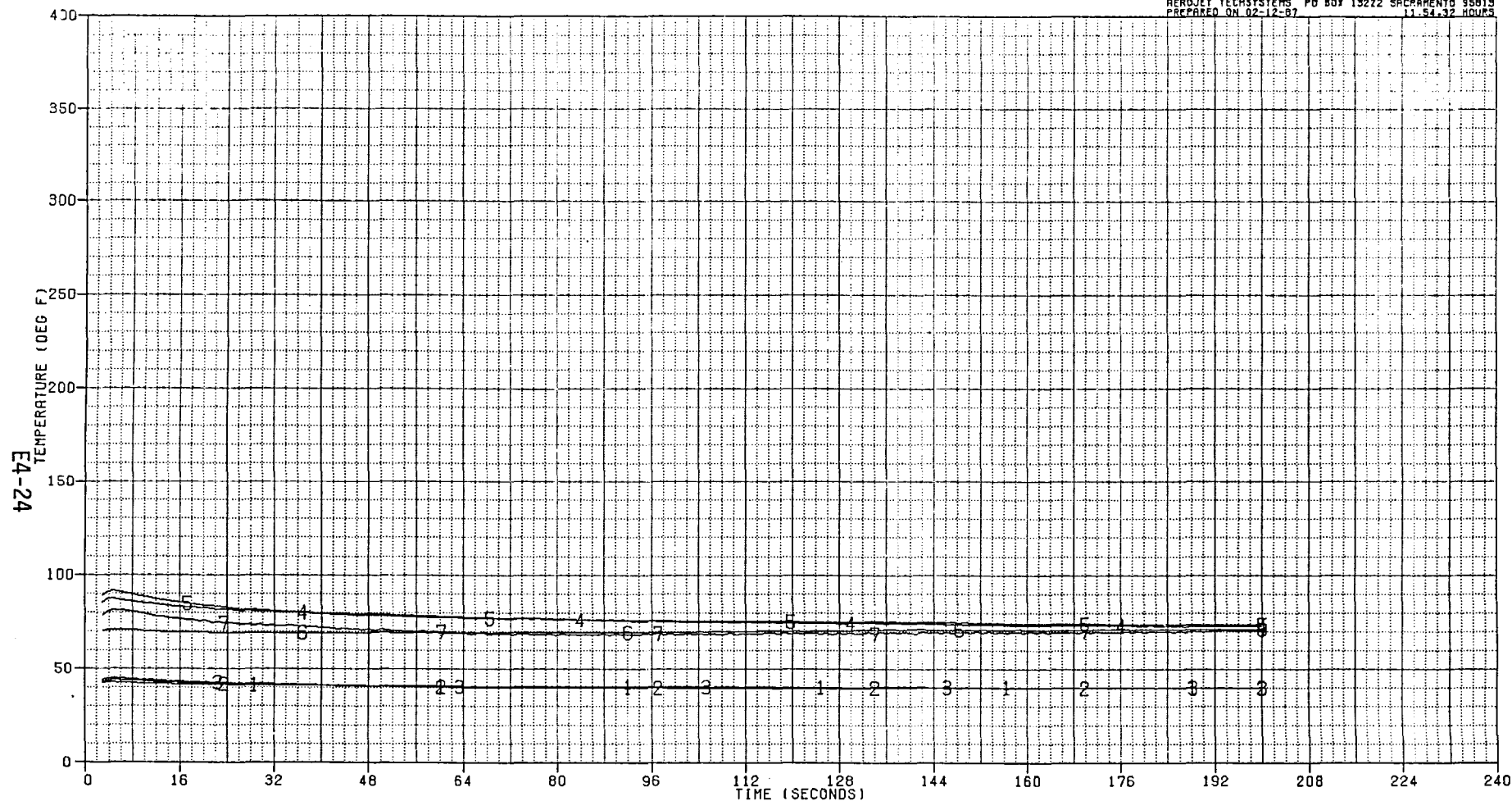
INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-229-A6-120

TEST DATE 05-30-86 0708 HOURS



- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-120  
 BARREL DATA  
 TEST DATE 05-30-86 0708 HOURS

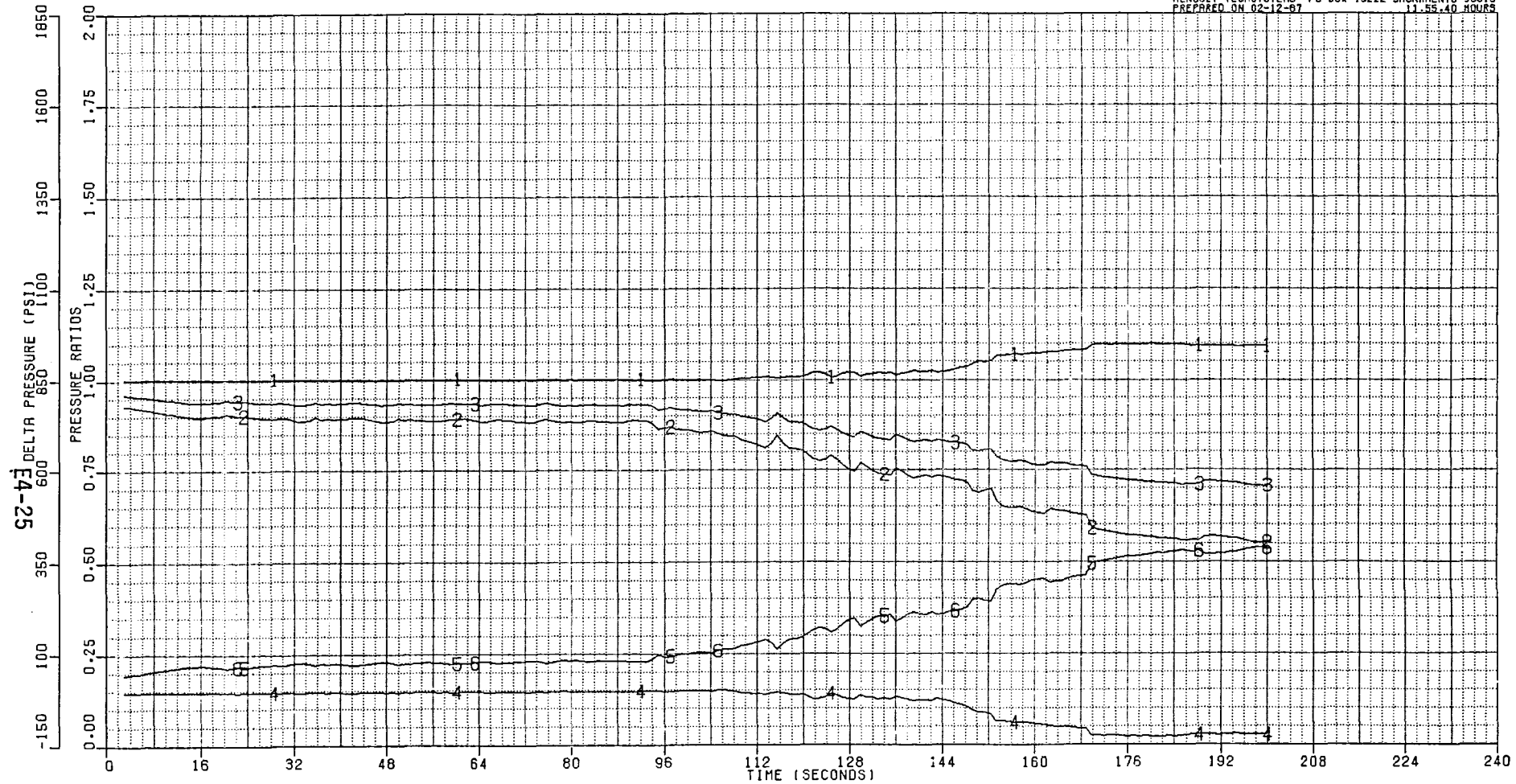


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

AEROJET  
**TechSystems**  
 COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-120

TEST DATE 05-30-86 0708 HOURS

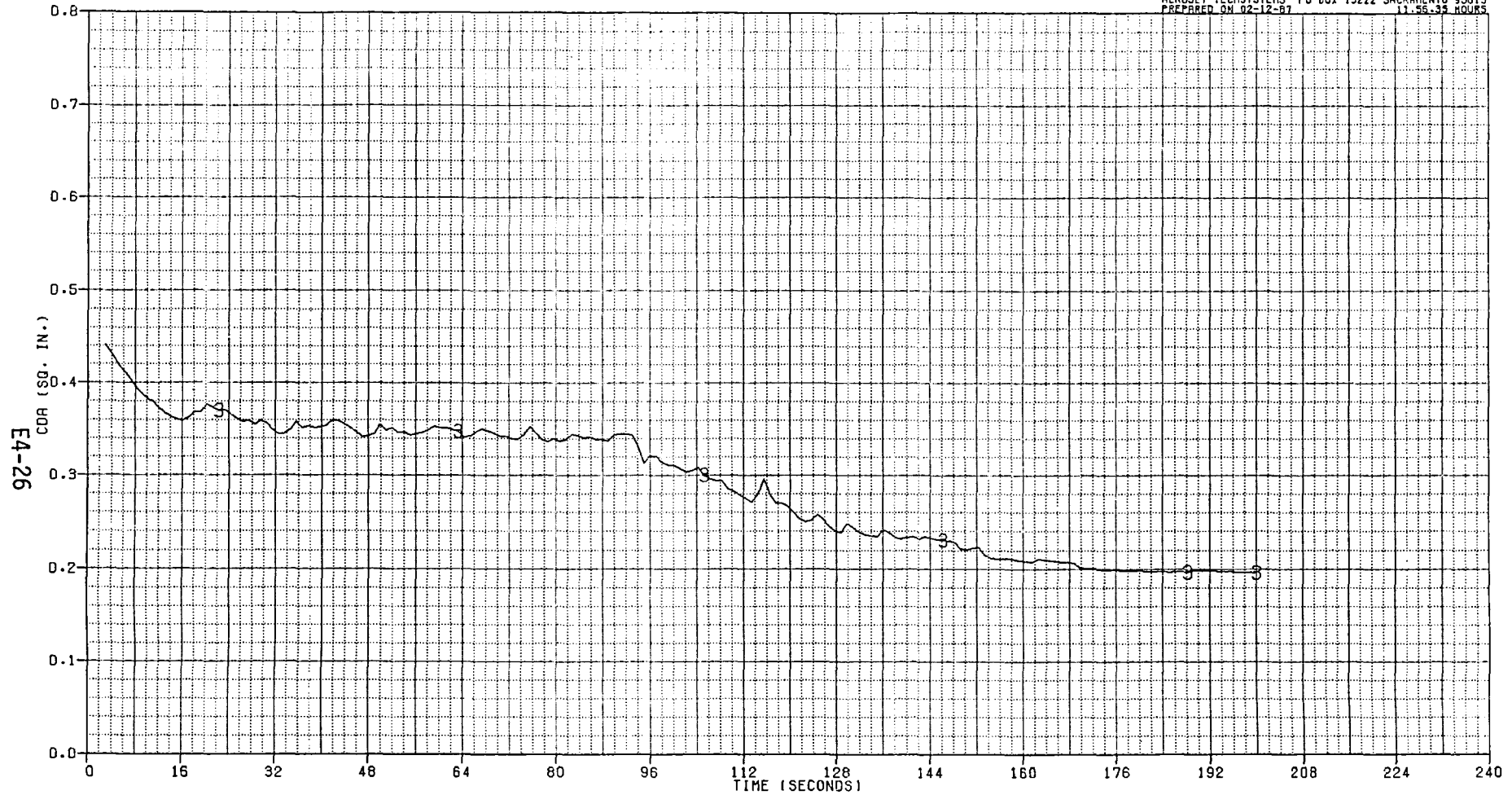


- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
 PSI  
 PSI



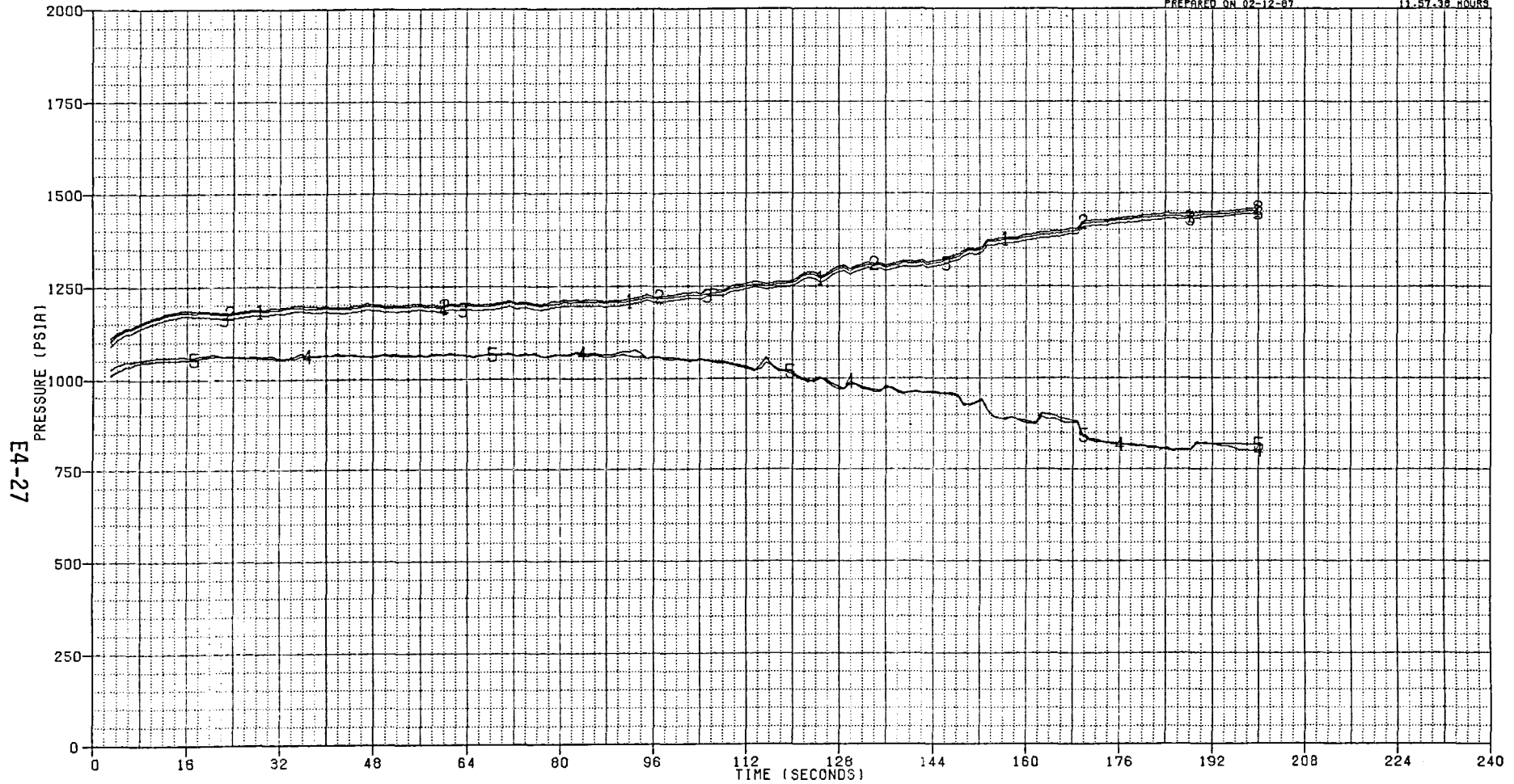
TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-120  
 CHAMBER PRESSURE DROPS AND RATIOS  
 TEST DATE 05-30-86 0708 HOURS



1 NA1 SQ.IN.  
2 NA2 SQ.IN.  
3 CDA

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-120  
NOZZLE AREA CHANGE  
TEST DATE 05-30-86 0708 HOURS

AEROJET  
**@TechSystems**  
COMPANY



- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-120  
 PRESSURE MEASUREMENTS  
 TEST DATE 05-30-86 0708 HOURS



11.58.43 HOURS



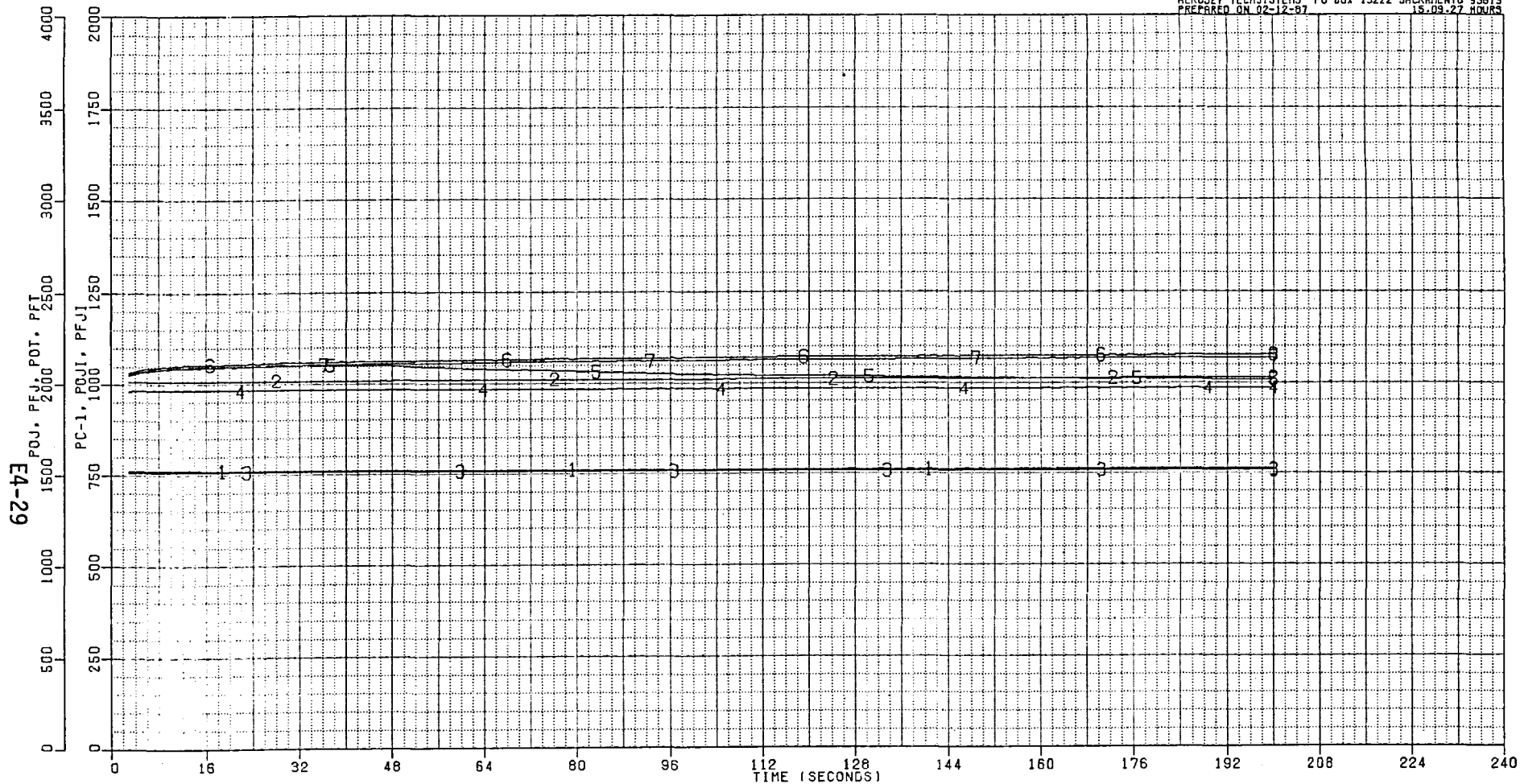
DEG F  
DEG F  
DEG F  
DEG F  
DEG F  
DEG F

## PRESSURE MEASUREMENTS

TEST DATE 05-30-86 0708 HOURS

**AEROJET**  
**TechSystems**  
**COMPANY**



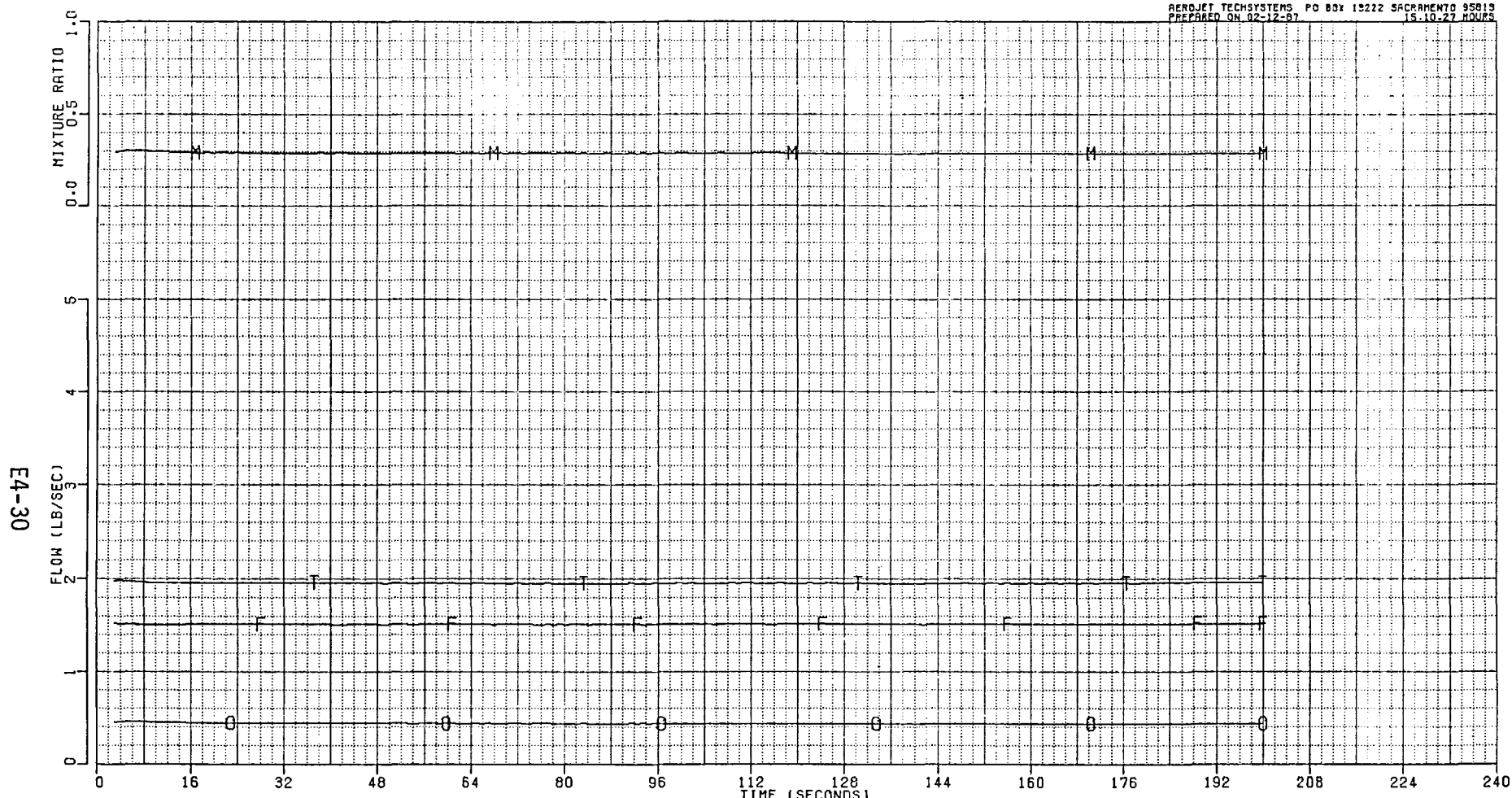


|        |      |
|--------|------|
| 1 PQT  | PSIA |
| 2 PFT  | PSIA |
| 3 PQJ  | PSIA |
| 4 PFJ  | PSIA |
| 5 PC-1 | PSIA |
| 6 PQJ  | PSIA |
| 7 PFI  | PSIA |

AEROJET  
  
 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-229-A6-125

TEST DATE 06-09-86 1244 HOURS

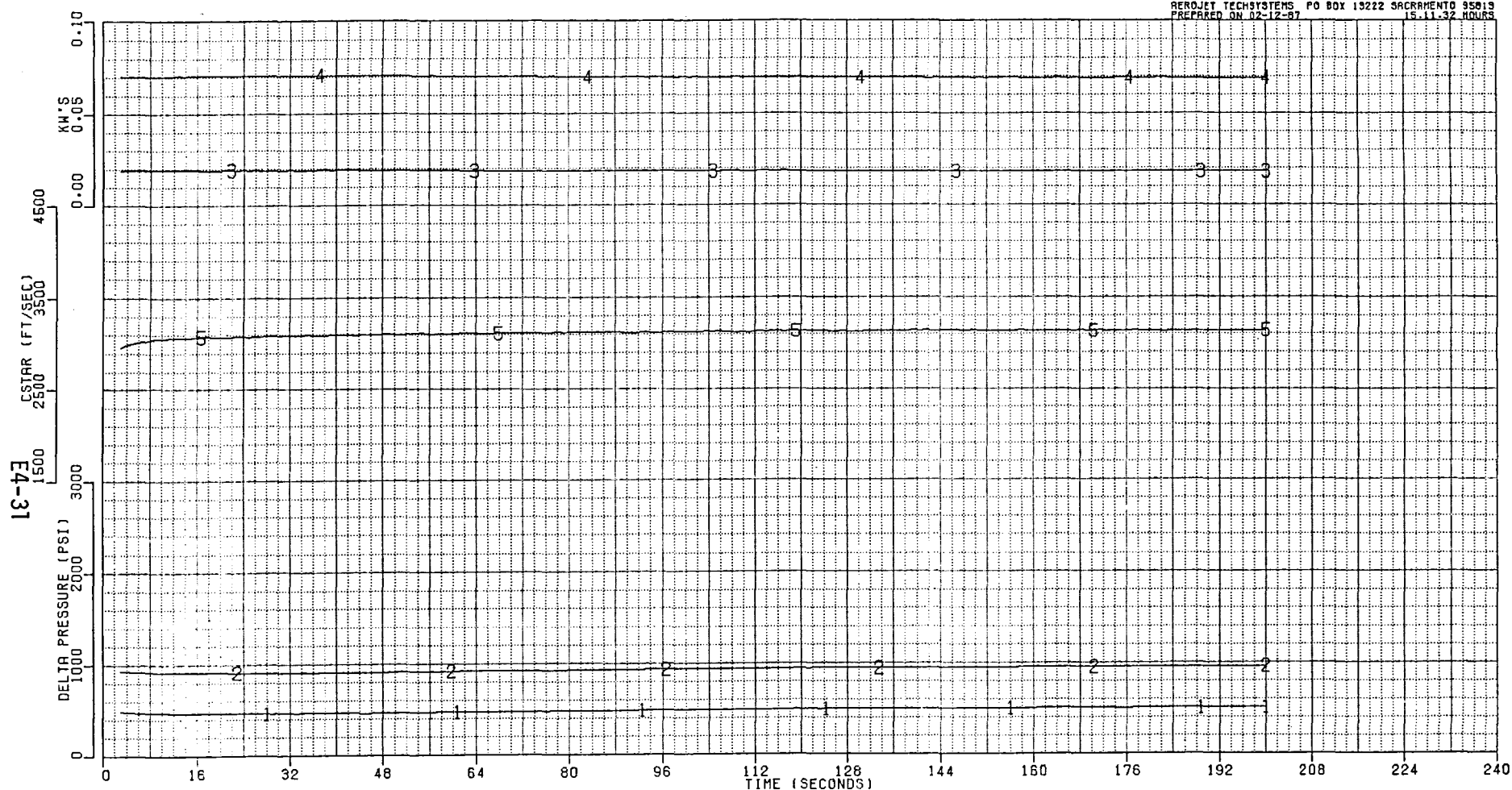


F WF LBS/SEC  
O WOX LBS/SEC  
T WTOT LBS/SEC  
M MR

INJECTOR FLOW VS TIME  
TEST NO. 2427-229-A6-125

TEST DATE 06-09-86 1244 HOURS



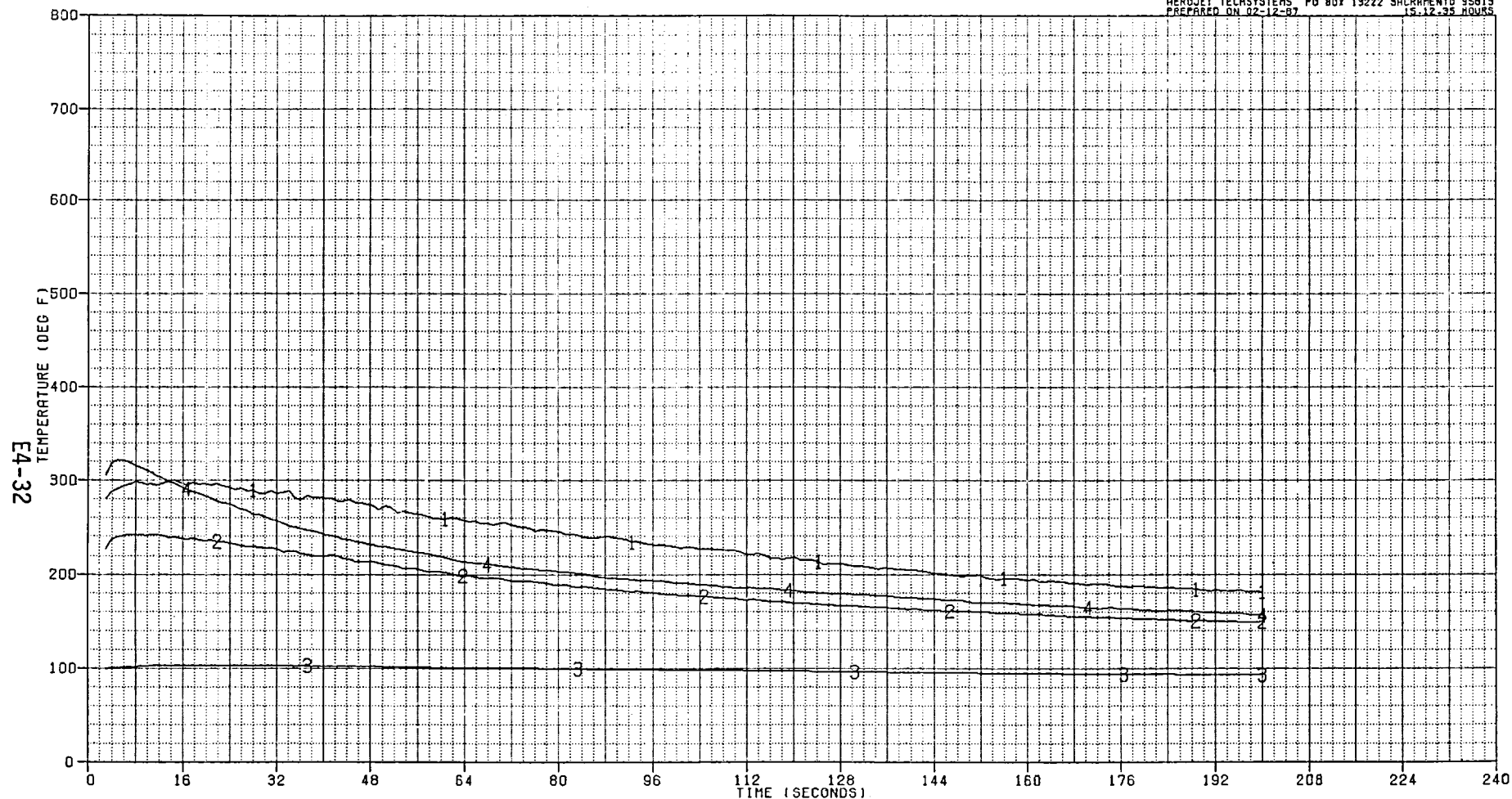


1 DPOJ PSI  
2 DPFJ PSI  
3 KWOJ  
4 KWFJ  
5 CSTRPB FT/SEC  
6 CSTAR FT/SEC

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-229-A6-125

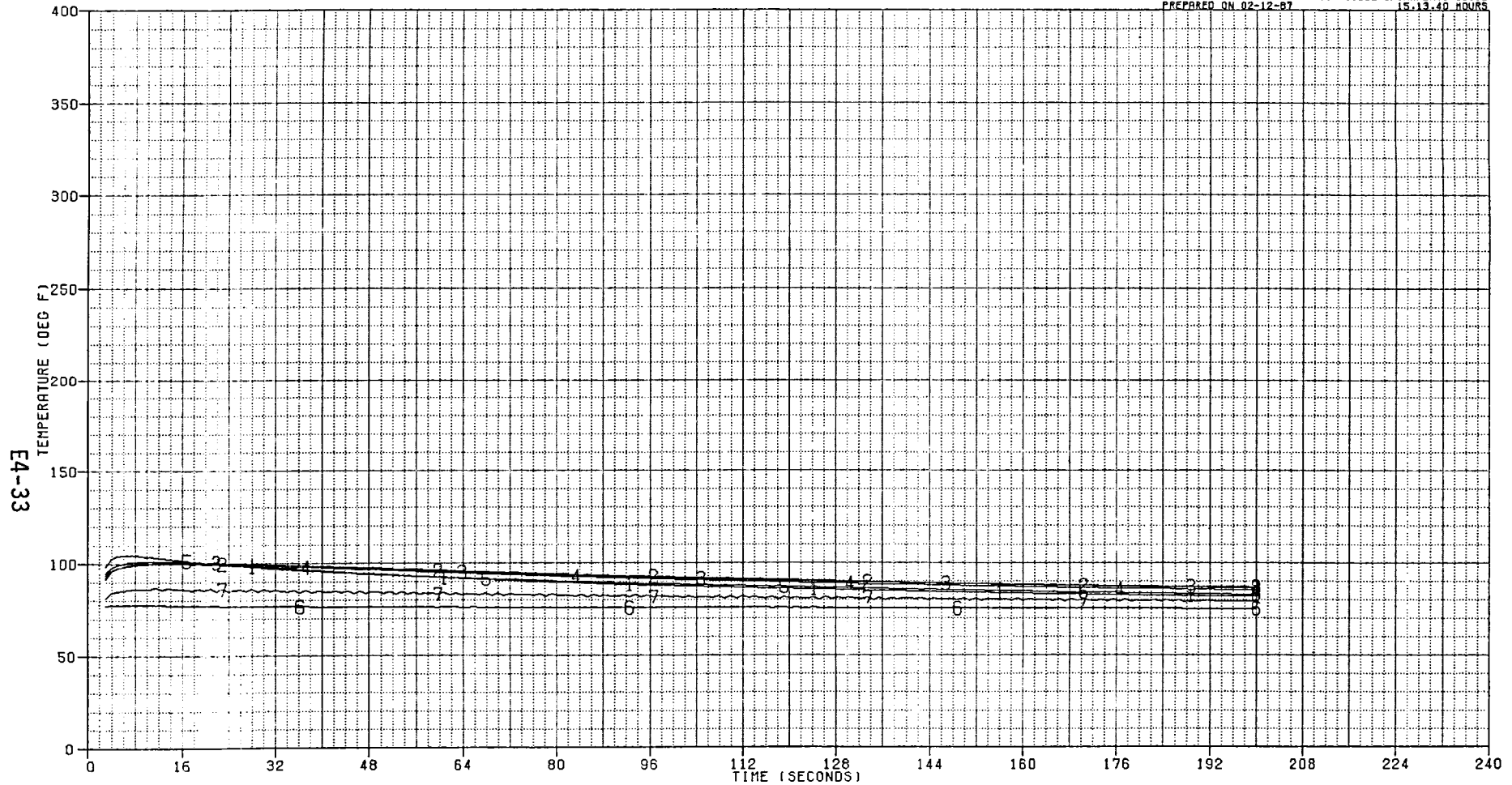
TEST DATE 06-09-86 1244 HOURS

AEROJET  
**TechSystems**  
COMPANY



1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-125  
 BARREL DATA  
 TEST DATE 06-09-86 1244 HOURS

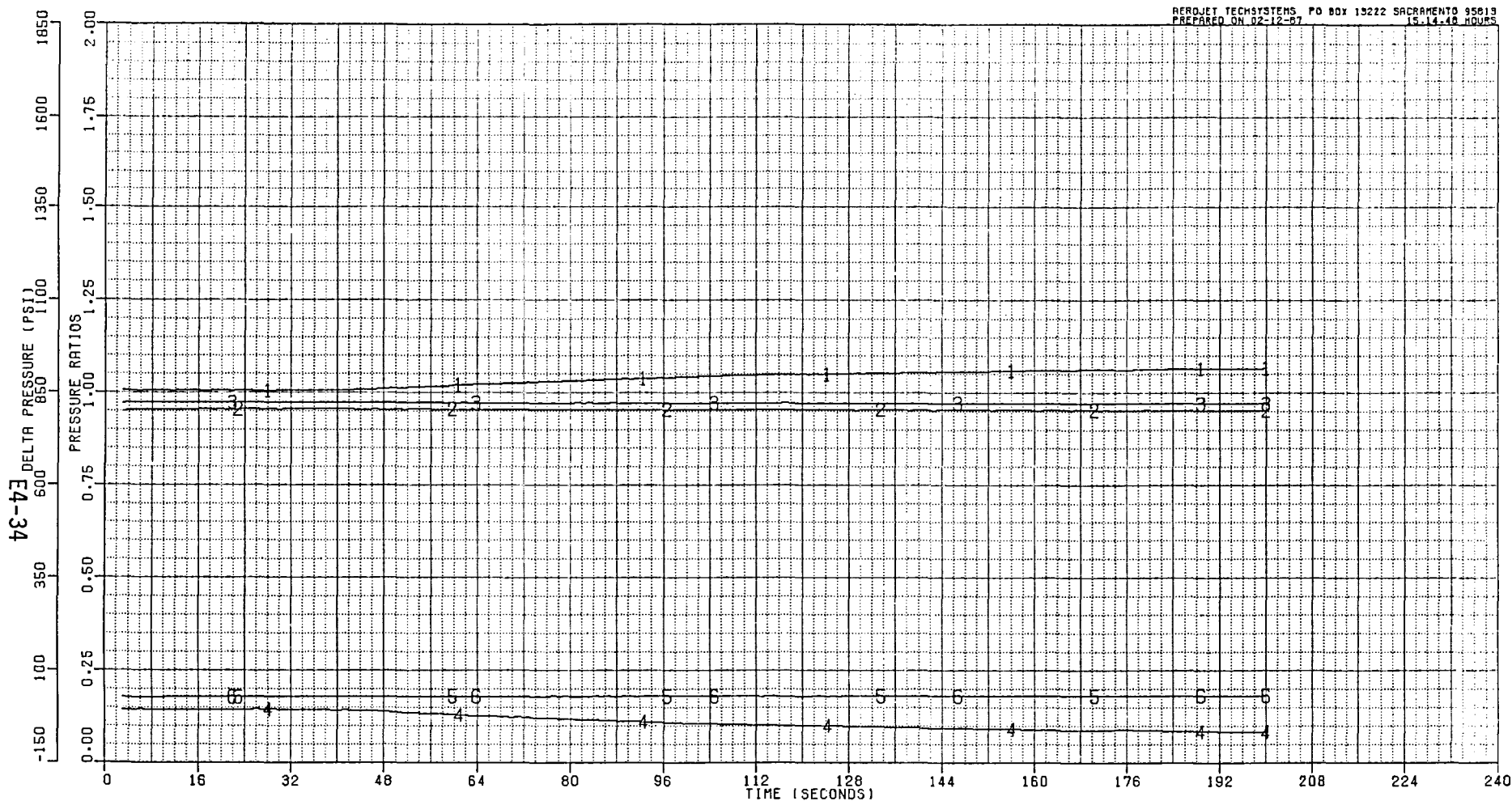


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F



COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-125

TEST DATE 06-09-86 1244 HOURS

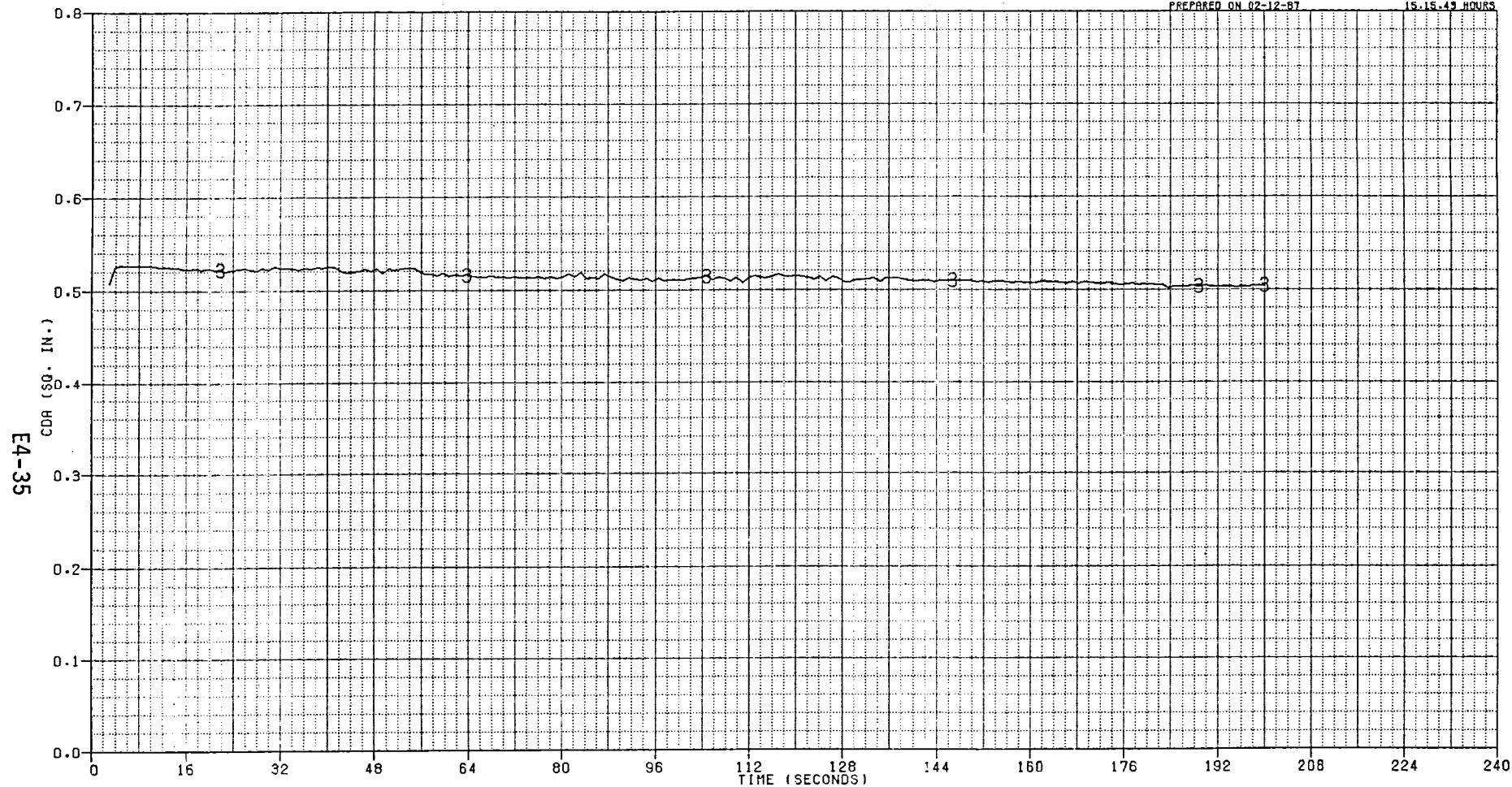


- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

AEROJET  
**TechSystems**  
COMPANY

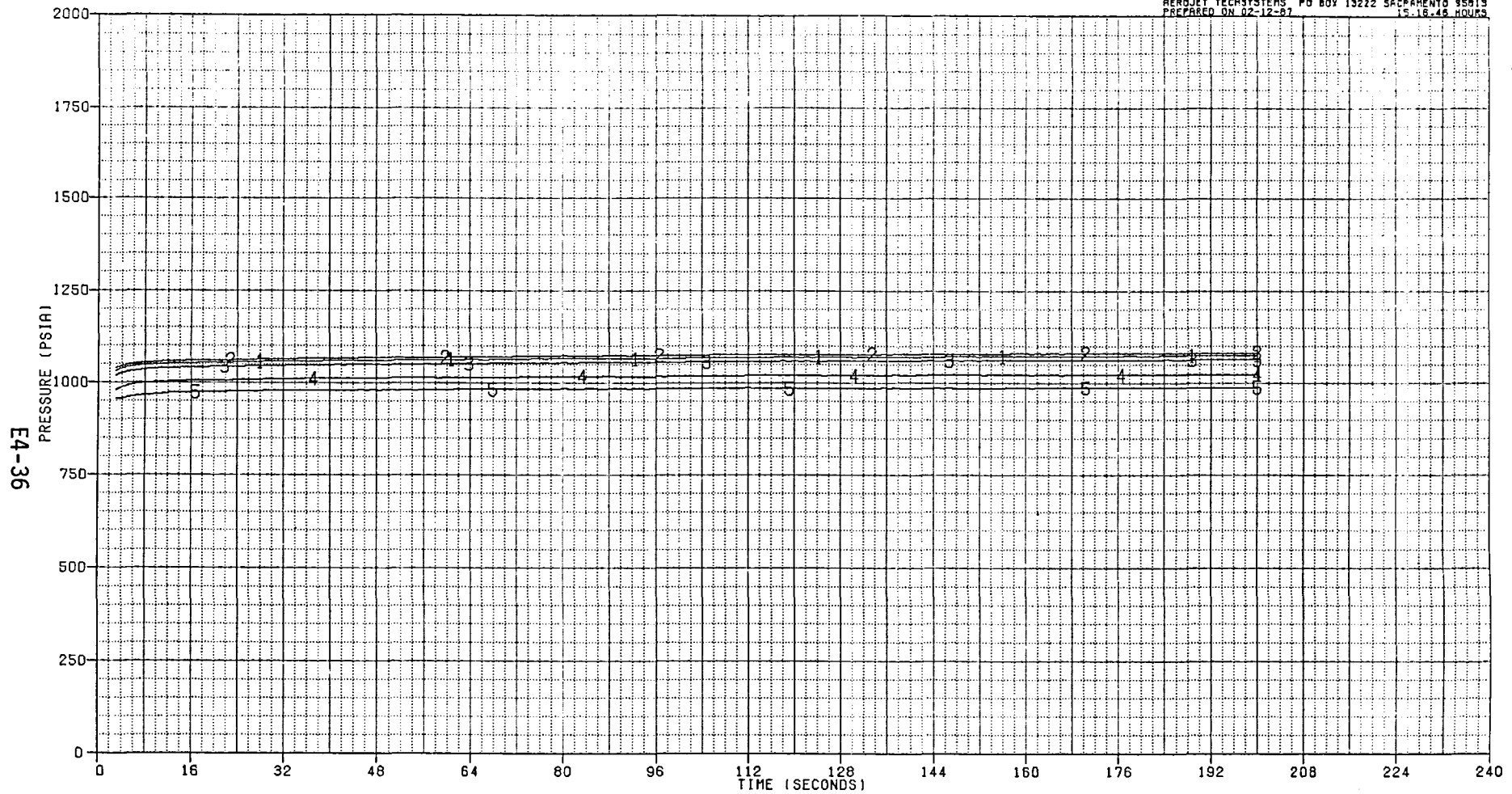
TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-125  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 06-09-86 1244 HOURS



1 NR1  
2 NR2  
3 CDA

50. IN.  
50. IN.

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-125  
NOZZLE AREA CHANGE  
TEST DATE 06-09-86 1244 HOURS

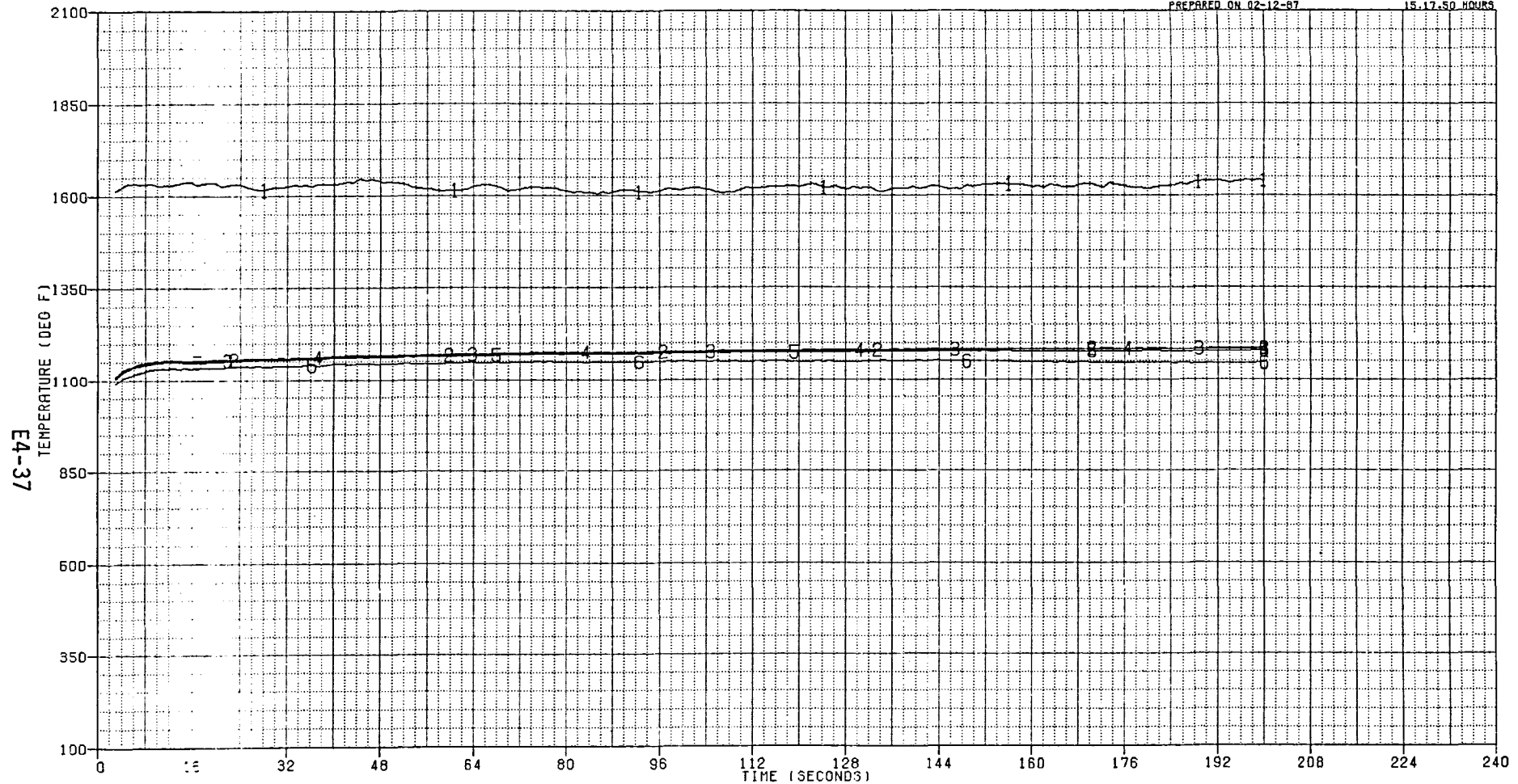


1 PCTSU PSIA  
 2 PCTSU-2 PSIA  
 3 PCTSU-3 PSIA  
 4 PCTSD PSIA  
 5 PCTSD-2 PSIA



TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-125  
 PRESSURE MEASUREMENTS  
 TEST DATE 06-09-86 1244 HOURS

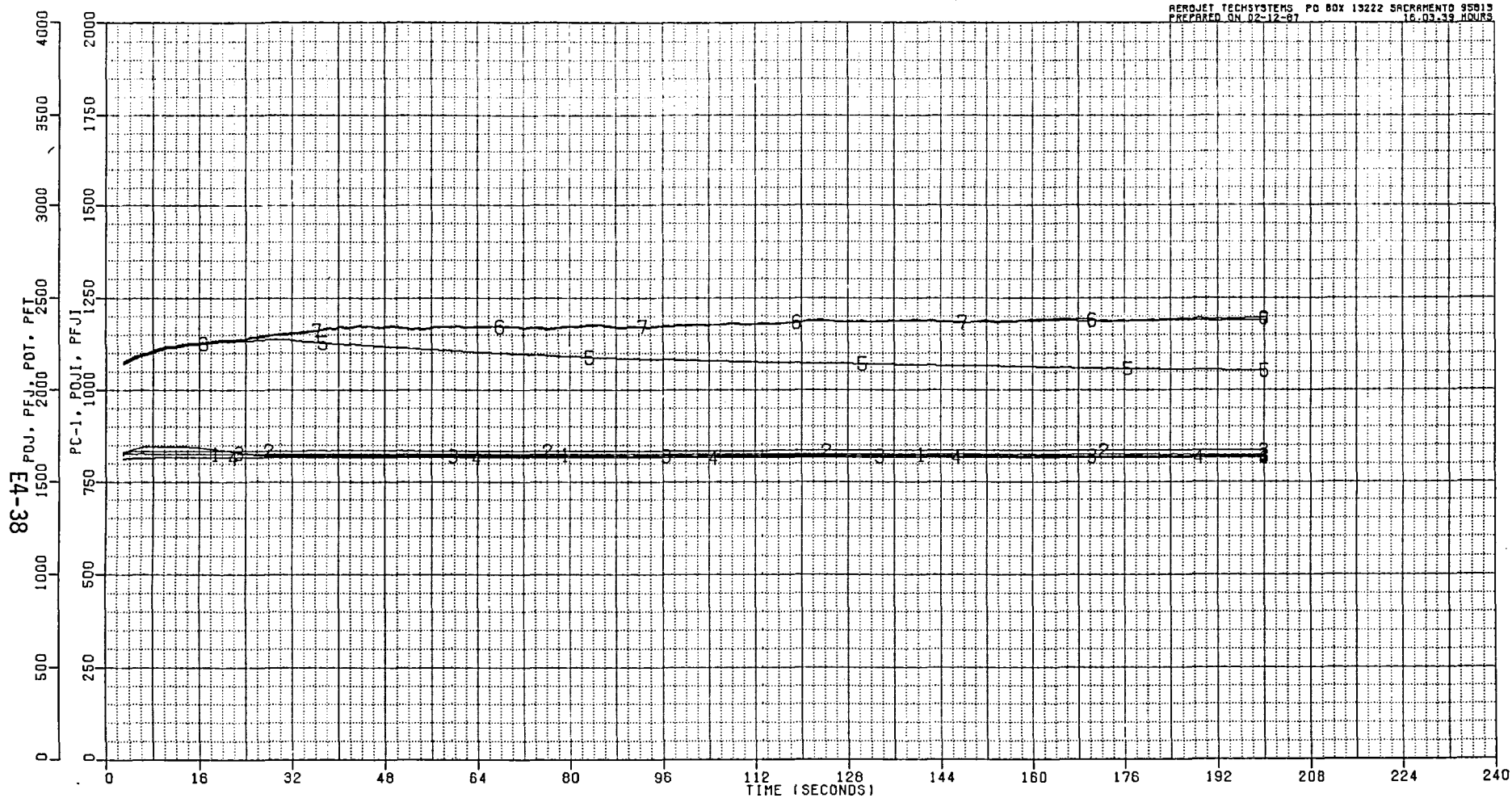




- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F

AEROJET  
**@TechSystems**  
 COMPANY

GAS TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-125  
 PRESSURE MEASUREMENTS  
 TEST DATE 06-09-86 1244 HOURS



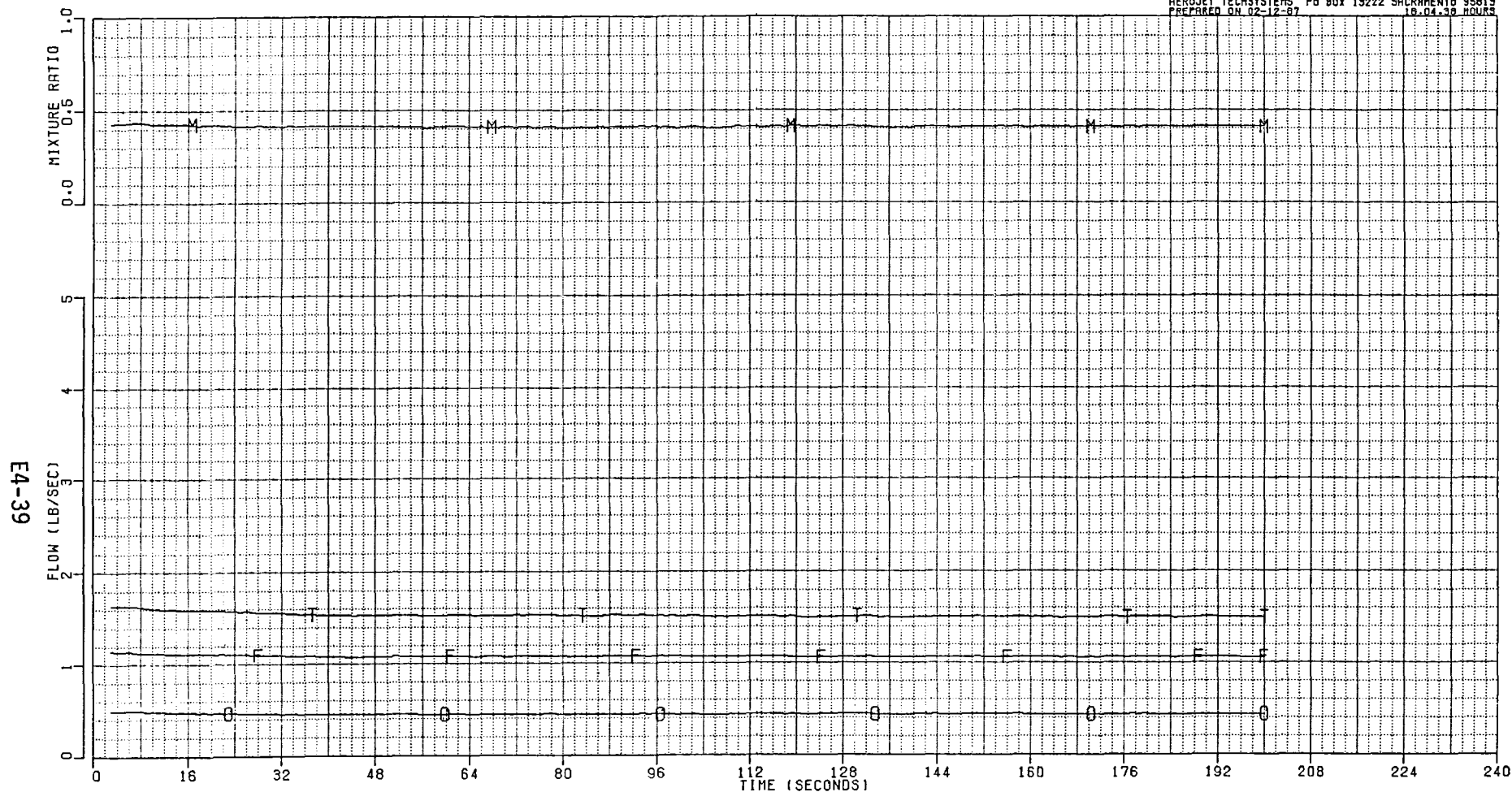
1 POT PSIA  
 2 PFT PSIA  
 3 POJ PSIA  
 4 PFJ PSIA  
 5 PC-1 PSIA  
 6 POJI PSIA  
 7 PFJI PSIA

AEROJET  
**TechSystems**  
 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-229-A6-126

TEST DATE 06-10-86 1014 HOURS

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-12-87 16.03.39 HOURS

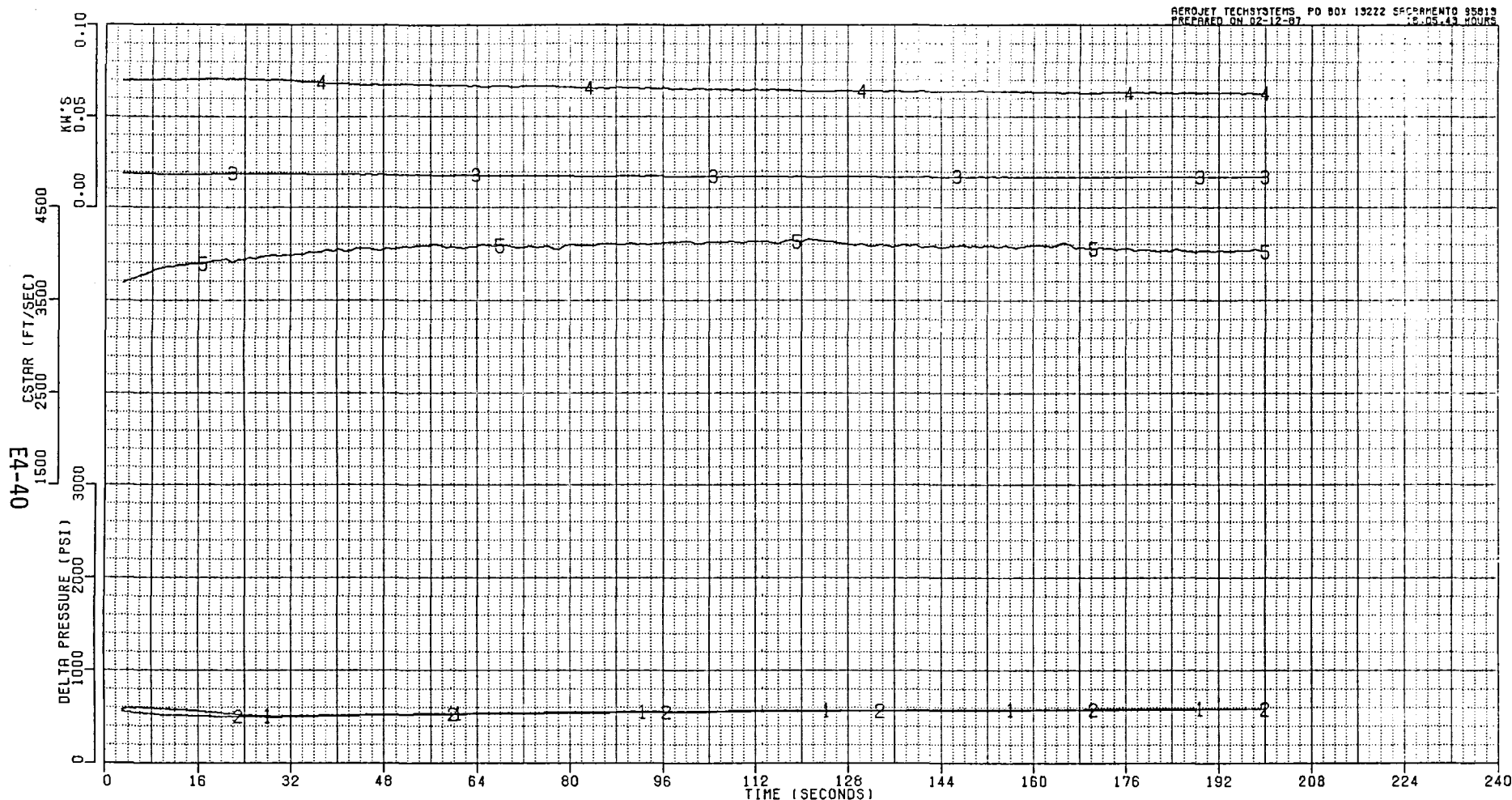


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-126

TEST DATE 06-10-86 1014 HOURS

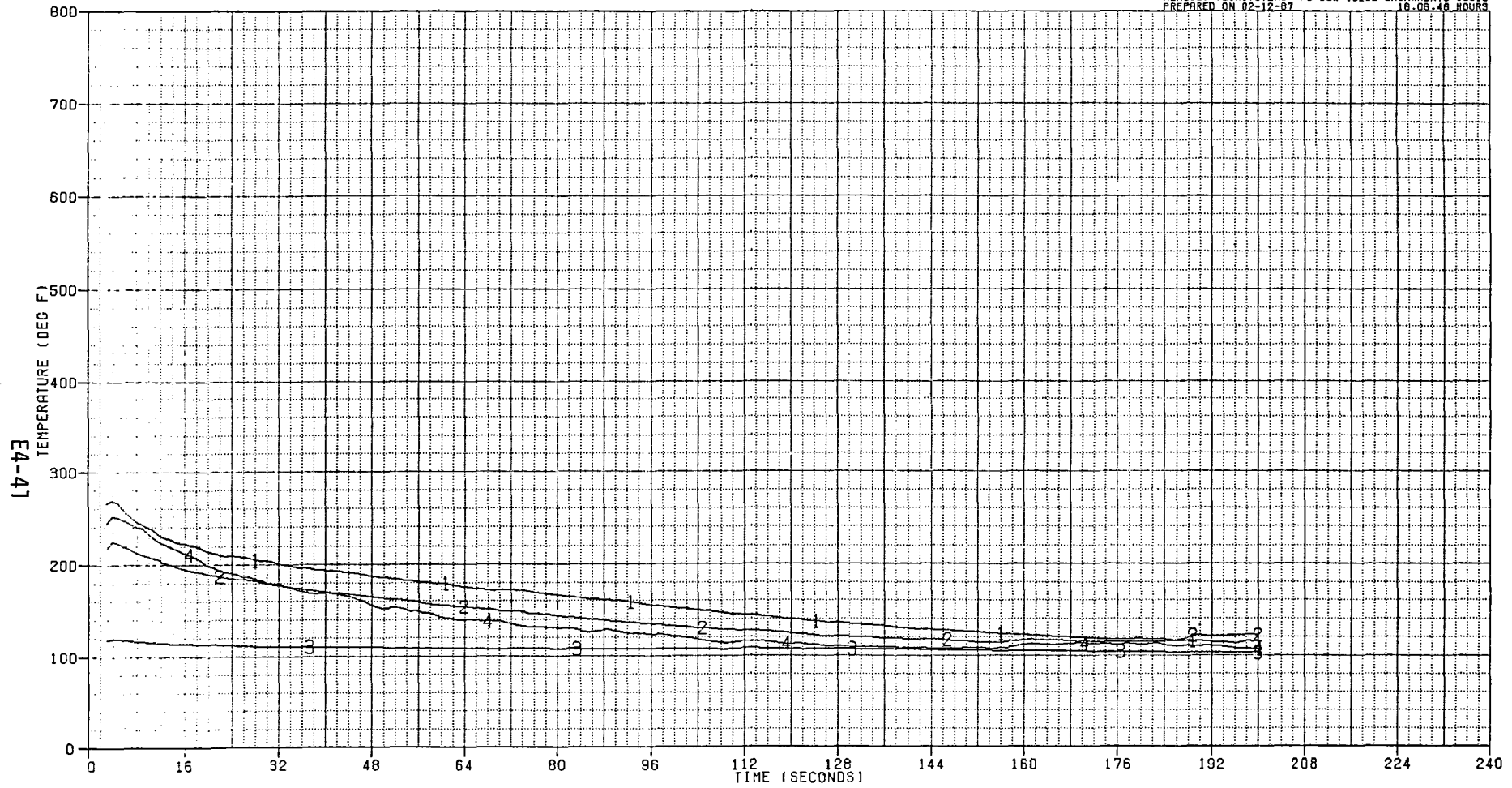
AEROJET  
 @TechSystems  
 COMPANY



INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-229-A6-126

TEST DATE 06-10-86 1014 HOURS

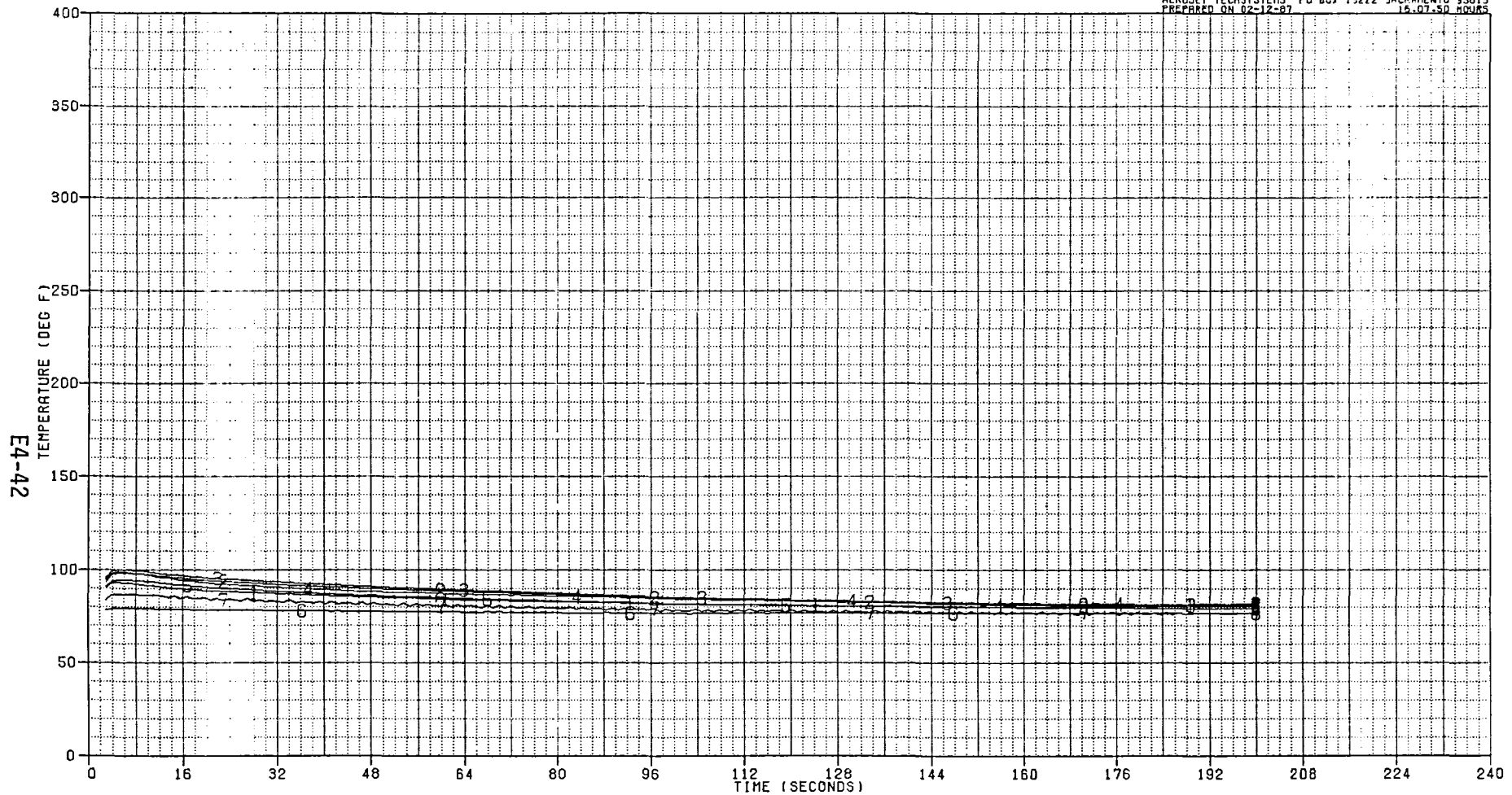
AEROJET  
  
 COMPANY



1 TC-7 DEG F  
2 TC-10 DEG F  
3 TC-11 DEG F  
4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-126  
BARREL DATA  
TEST DATE 06-10-86 1014 HOURS

AEROJET  
TechSystems  
COMPANY

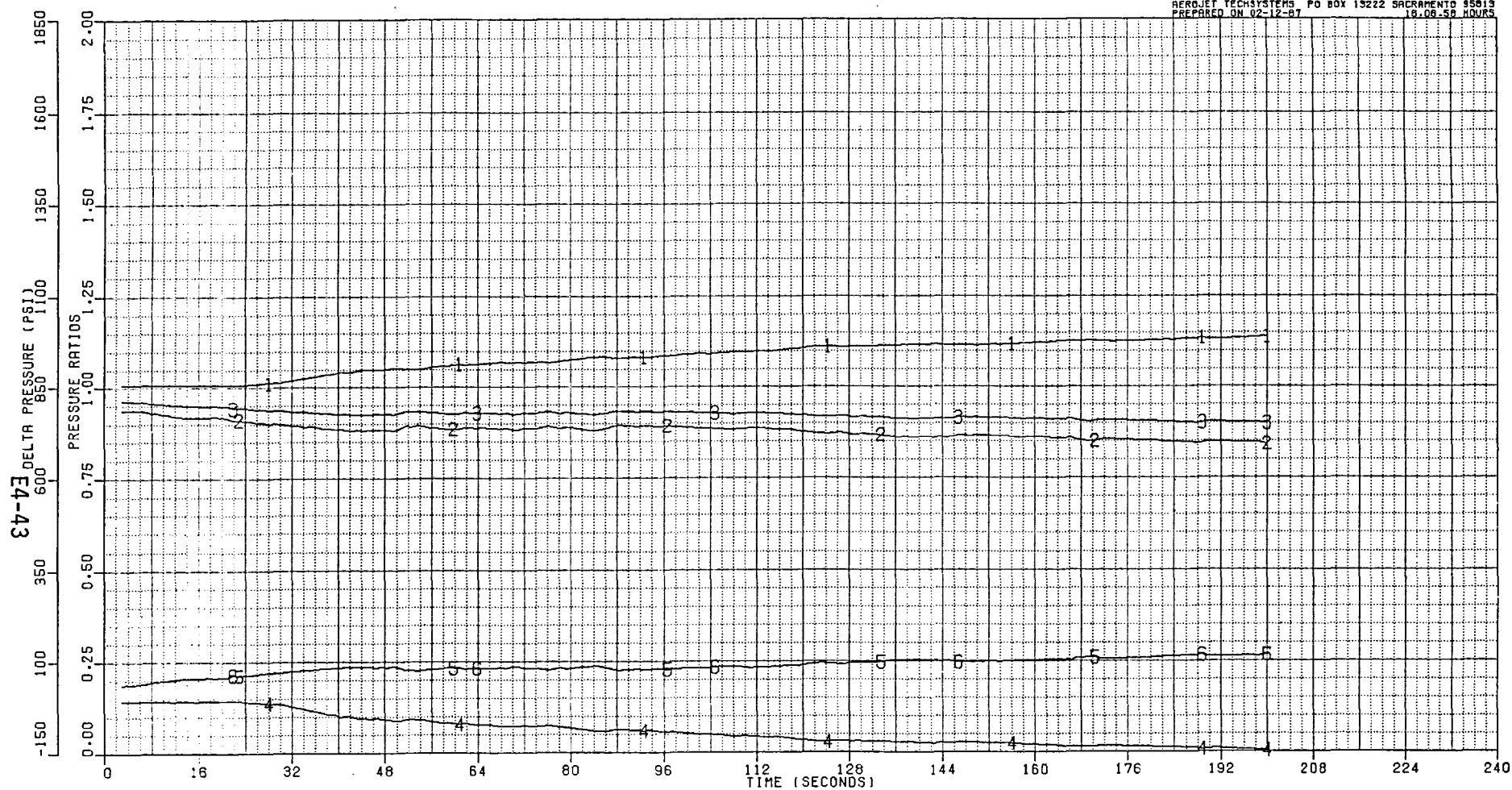


- 1 TWC-2 DEG =
- 2 TWC-26 DEG =
- 3 TWC-27 DEG =
- 4 TWC-31 DEG =
- 5 TWC-32 DEG =
- 6 TWC-33 DEG =
- 7 TC-7C DEG =



COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-126

TEST DATE 06-10-86 1014 HOURS



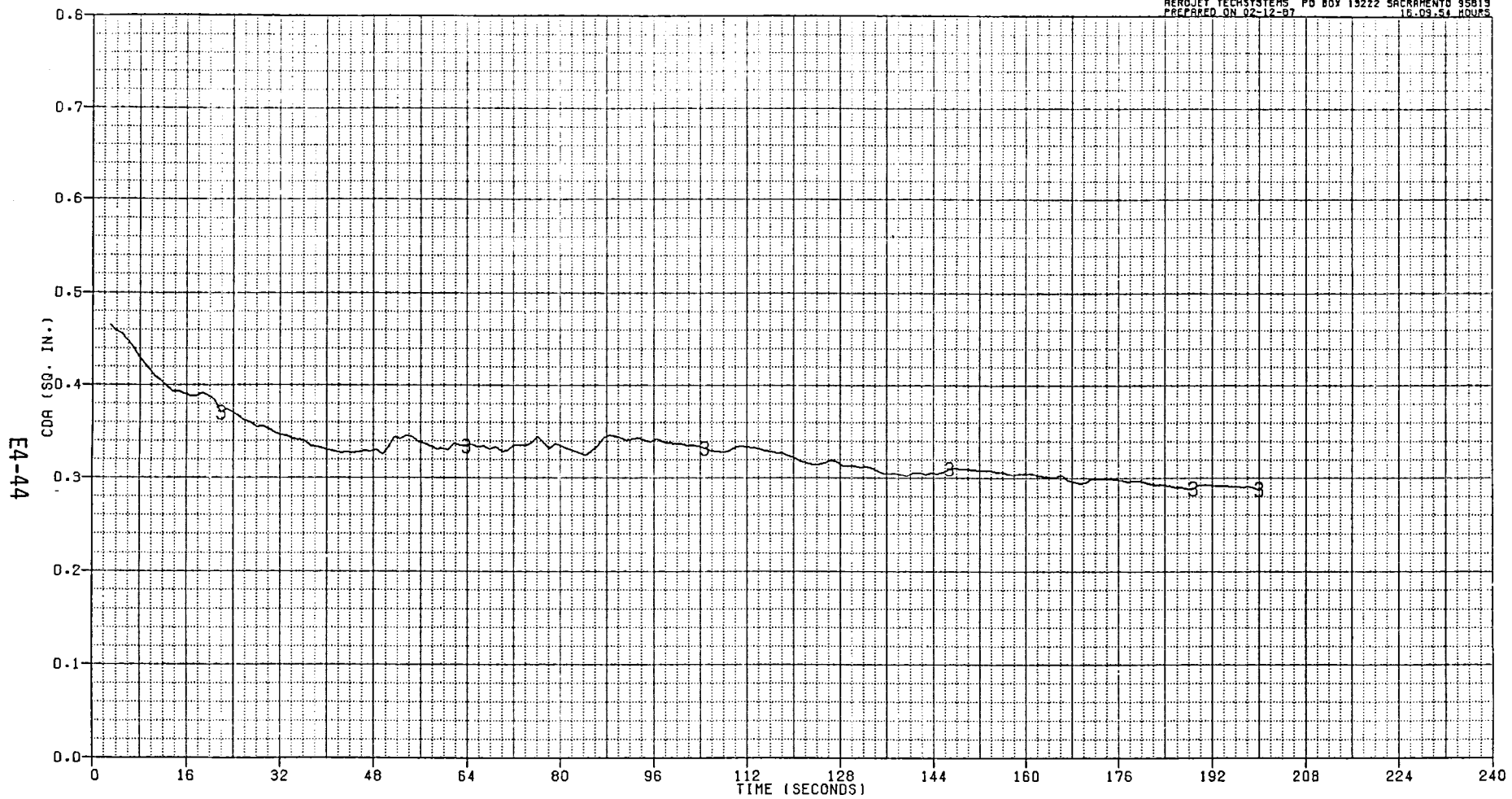
- 1 PRTR
- 2 PRTS
- 3 PRTS COFF
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-126  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 06-10-86 1014 HOURS



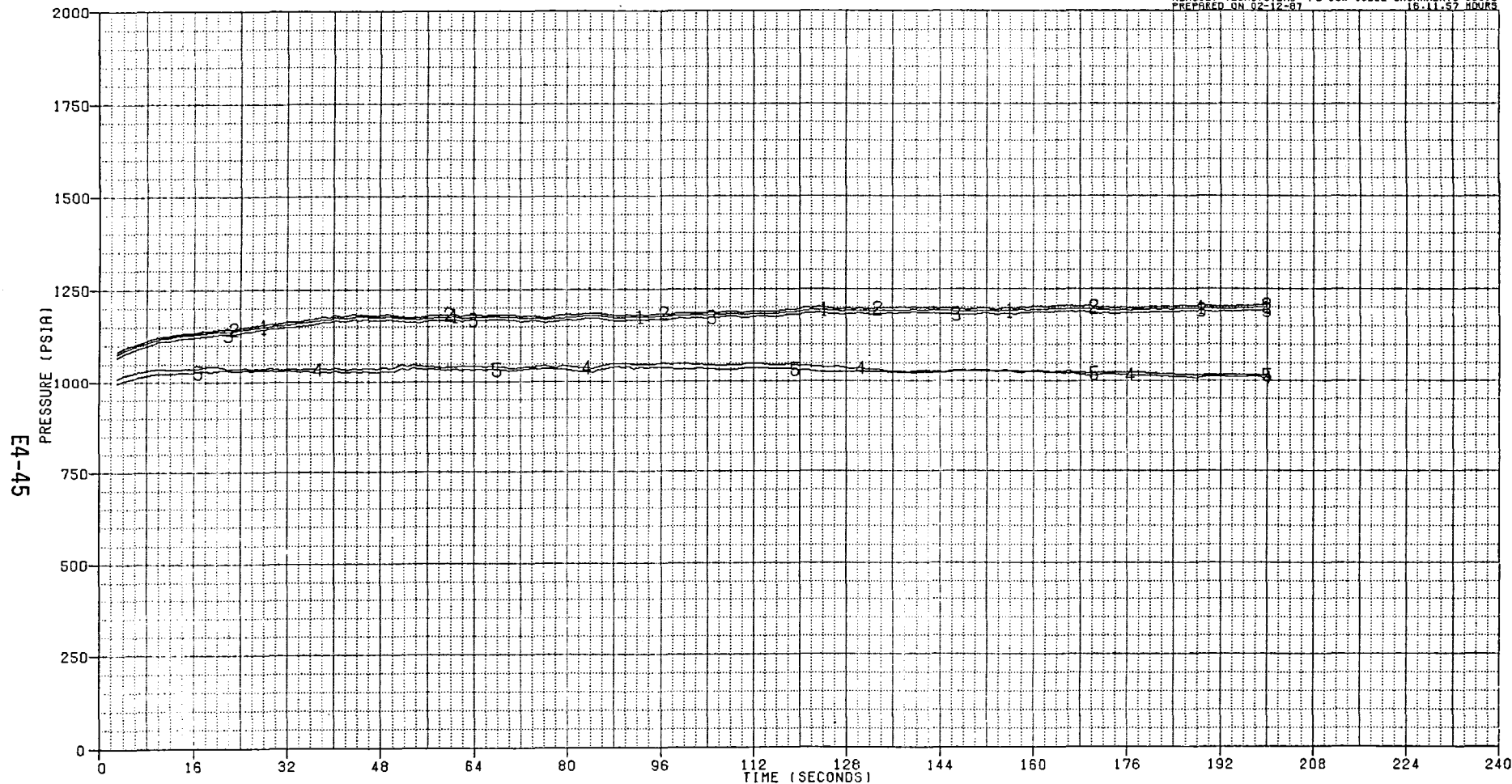


1 NA1 SQ.IN.  
2 NA2 SQ.IN.  
3 CDA

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-126  
NOZZLE AREA CHANGE  
TEST DATE 06-10-86 1014 HOURS

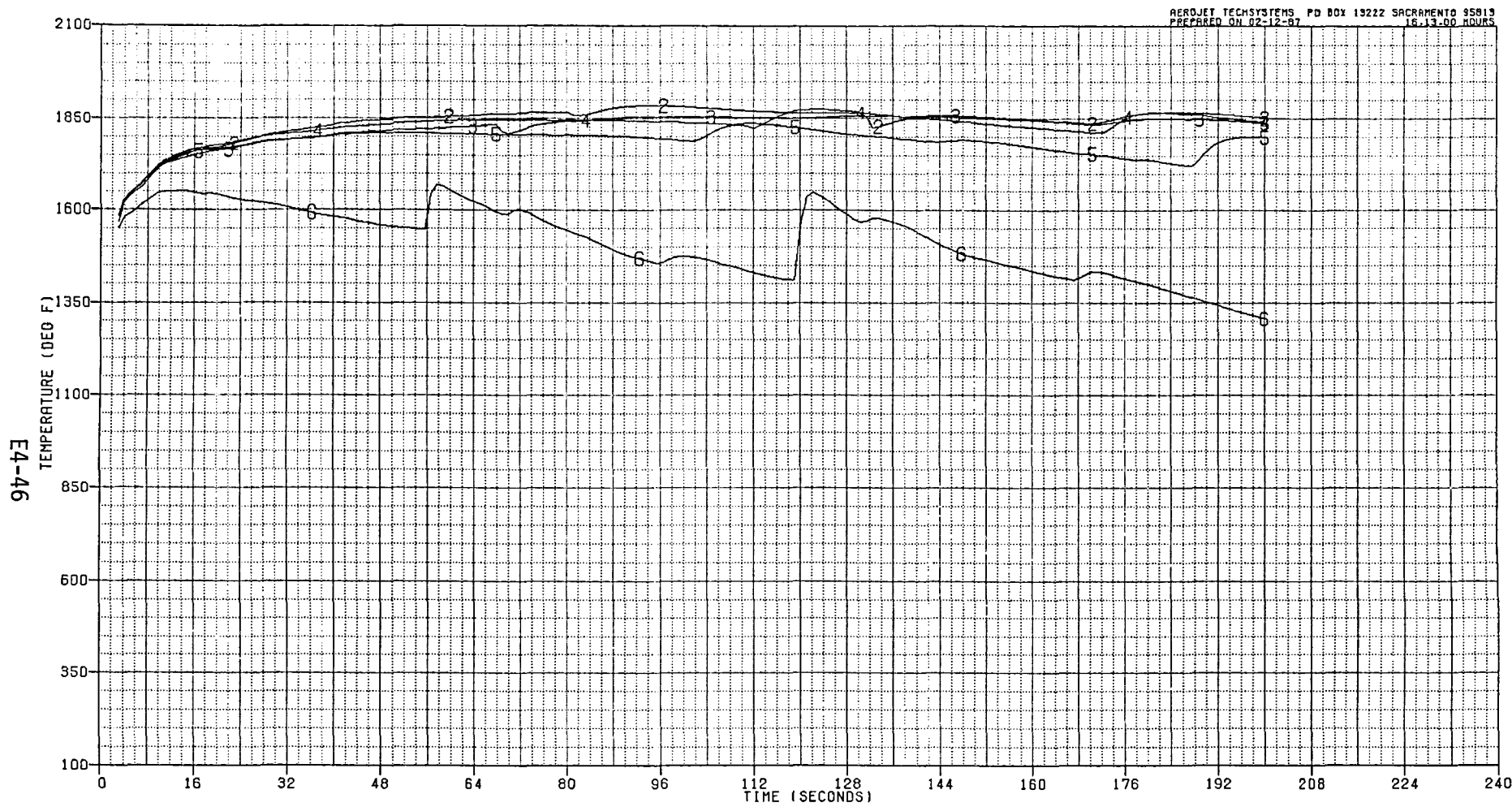






- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-126  
 PRESSURE MEASUREMENTS  
 TEST DATE 06-10-86 1014 HOURS



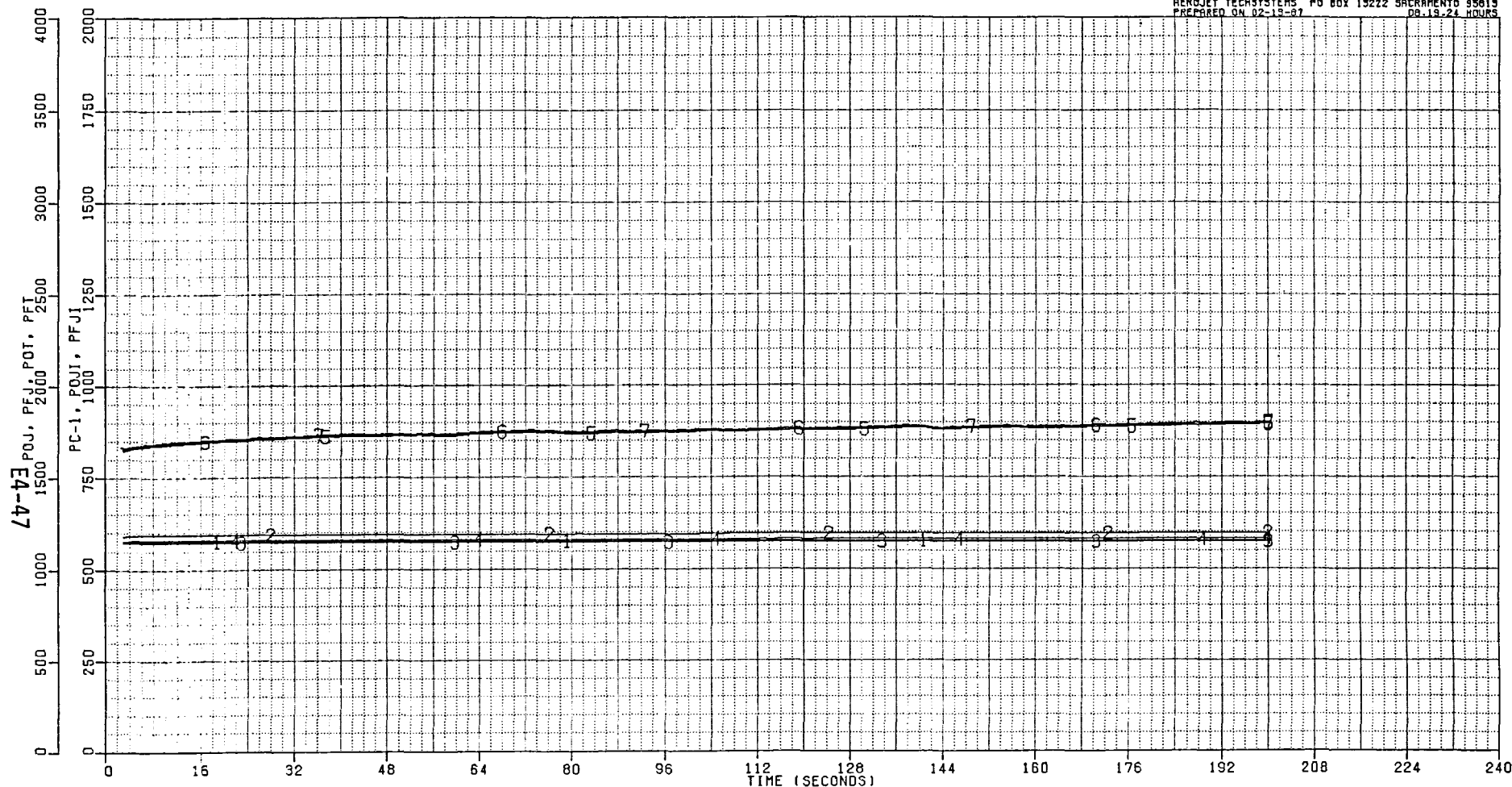
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-12-87 16:13:00 HOURS

E4-46

- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-126  
 PRESSURE MEASUREMENTS  
 TEST DATE 06-10-86 1014 HOURS

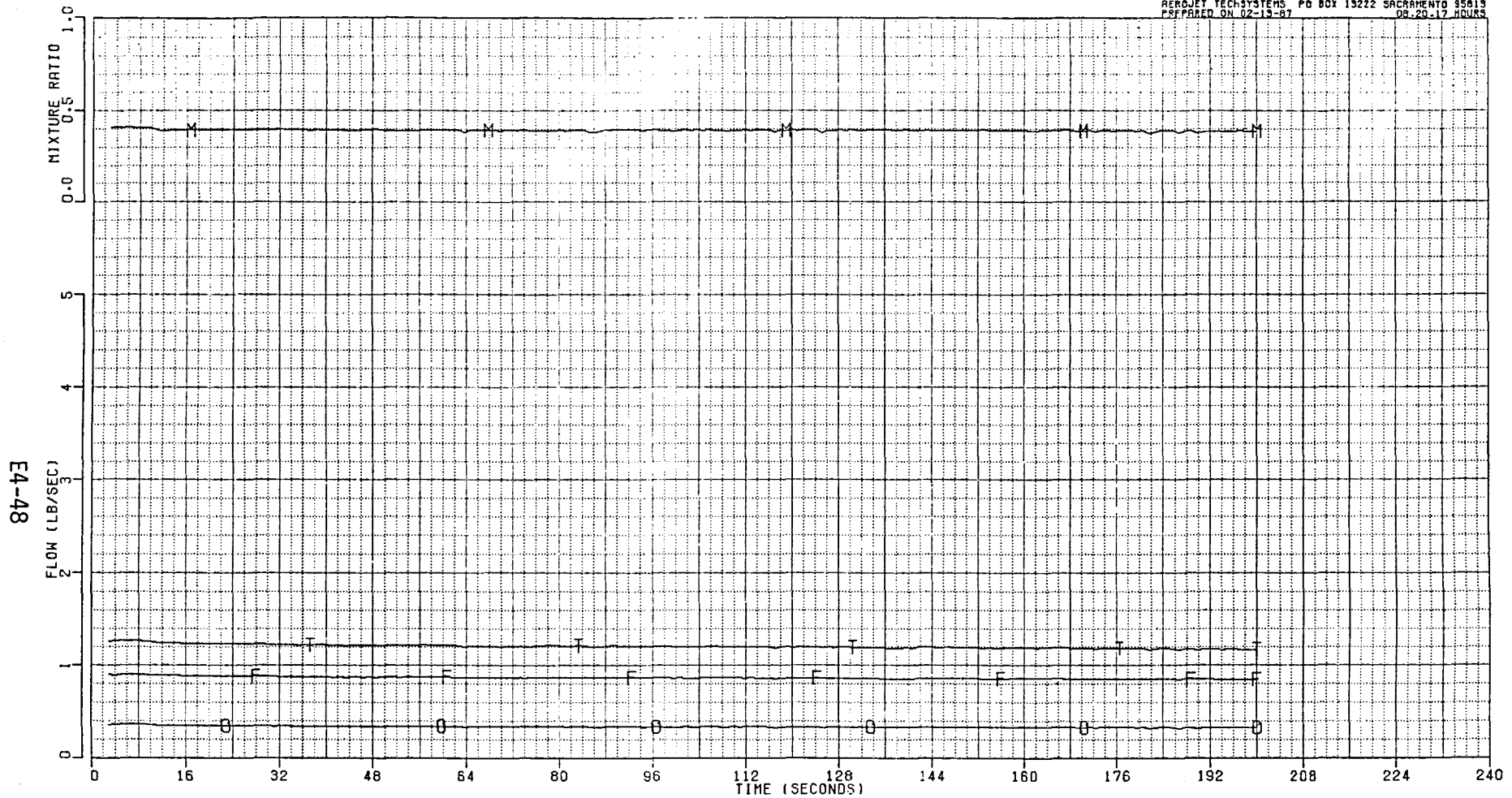


- 1 POT PSIA
- 2 PFI PSIA
- 3 POJ PSIA
- 4 PFJ PSIA
- 5 PC-1 PSIA
- 6 POJI PSIA
- 7 PFJI PSIA



MEASURED PRESSURES VS TIME  
 TEST NO. 2427-229-A6-128

TEST DATE 06-10-86 1131 HOURS

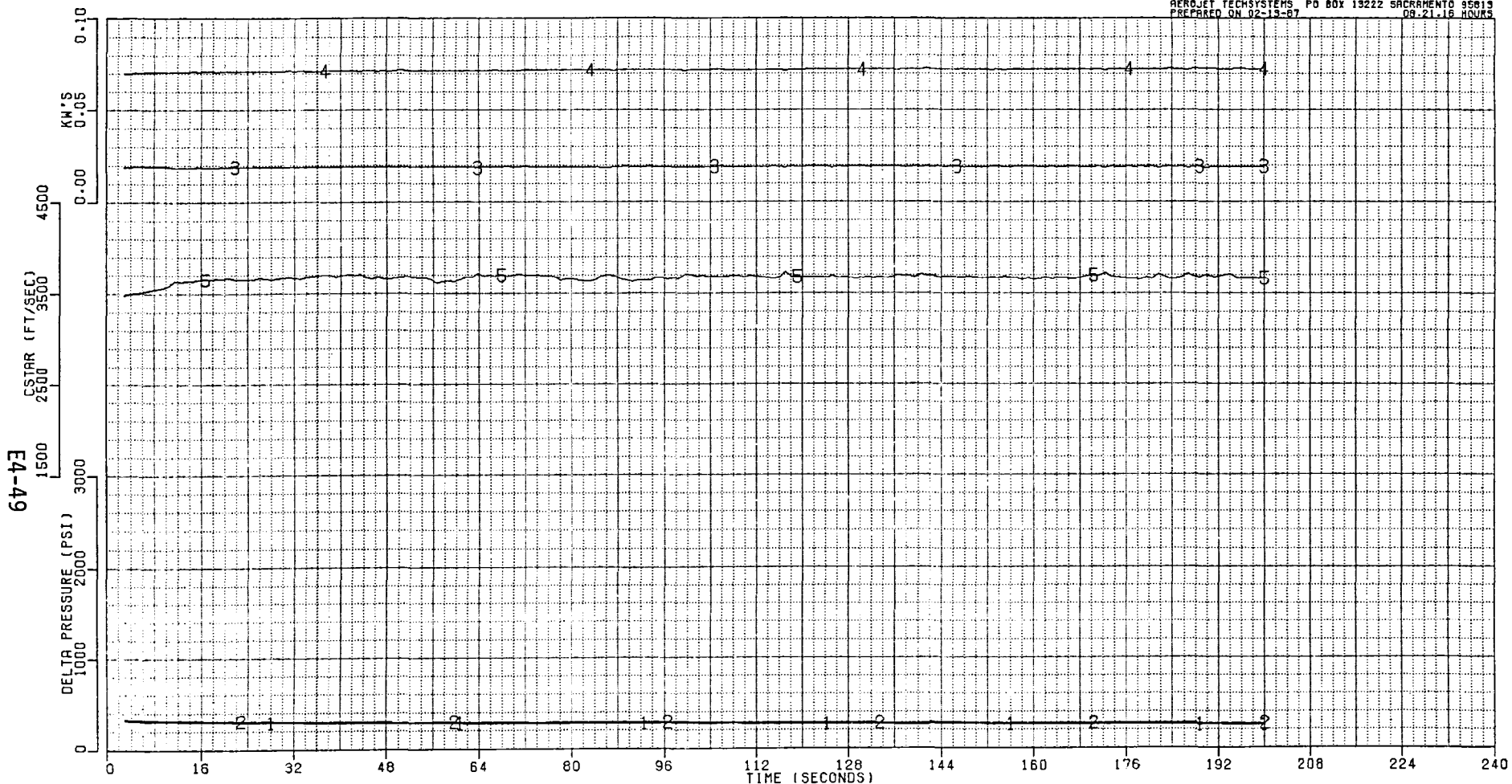


F WF LBS/SEC  
O WOX LBS/SEC  
T WTOT LBS/SEC  
M MR

INJECTOR FLOW VS TIME  
TEST NO. 2427-229-A6-128

TEST DATE 06-10-86 1131 HOURS

REROJET  
TechSystems  
COMPANY

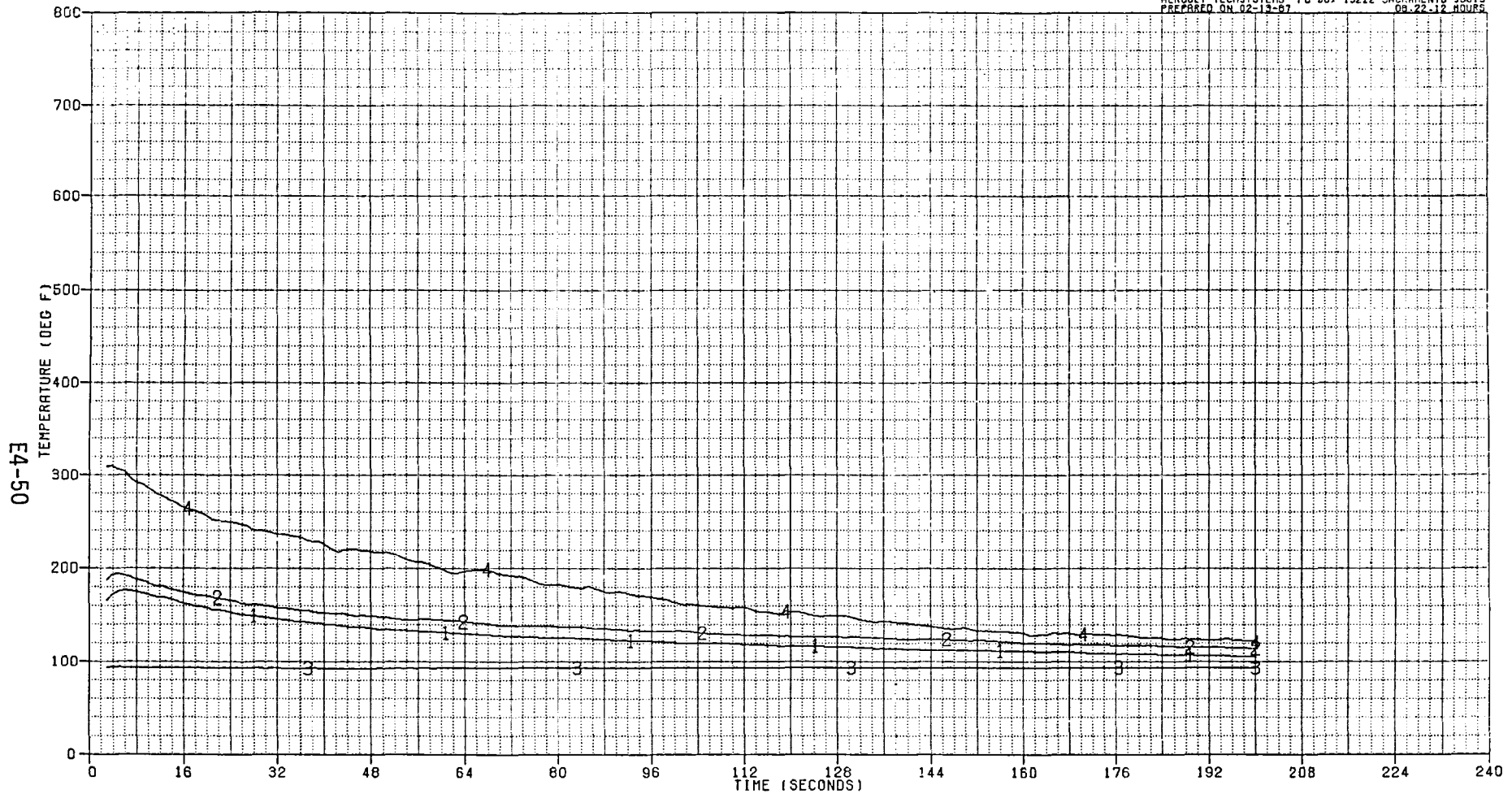


- 1 DPD PSI
- 2 DPF PSI
- 3 KWD
- 4 K2F
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC



INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-229-A6-128

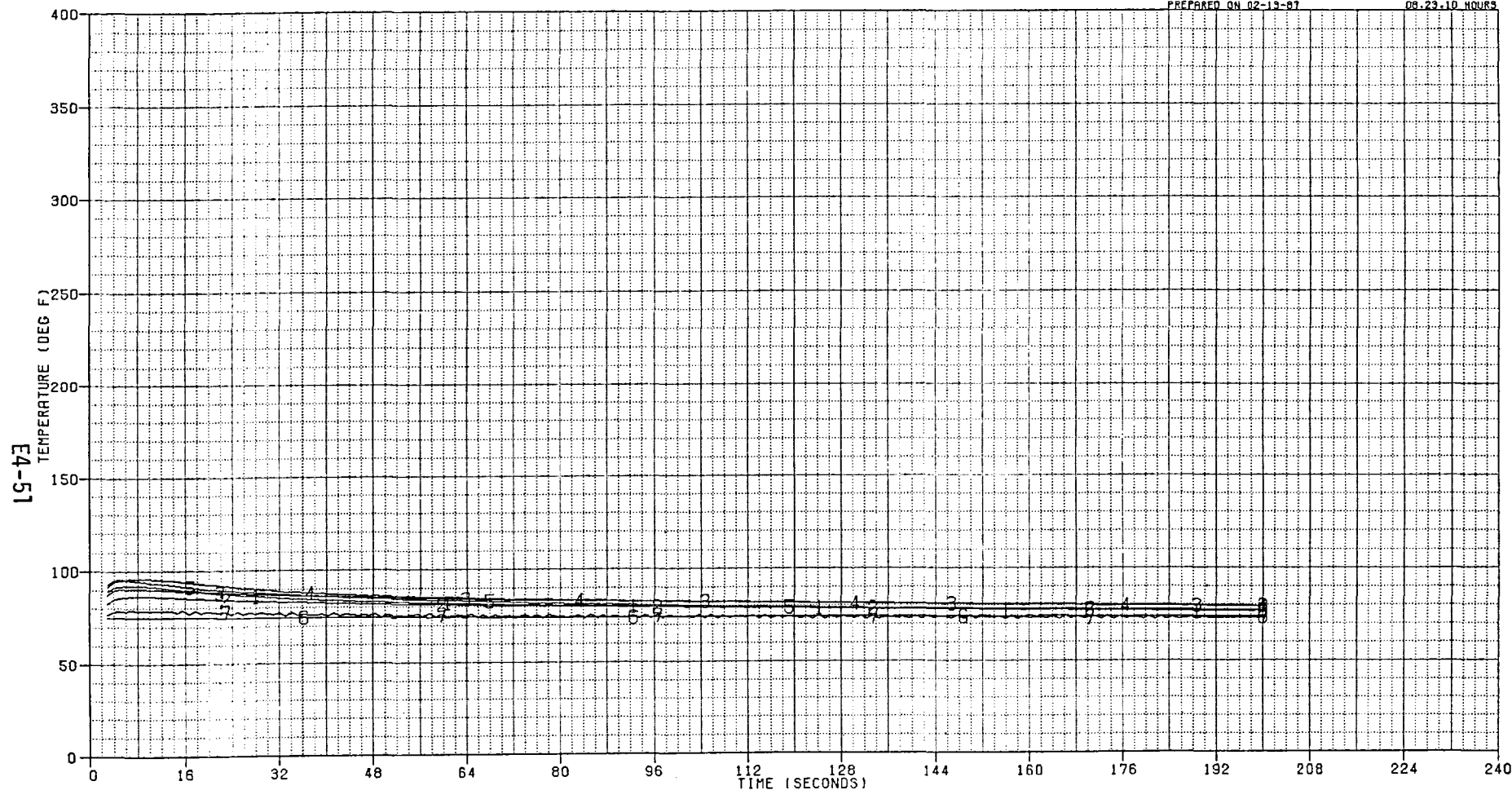
TEST DATE 06-10-86 1131 HOURS



1 TC-7 DEG F  
2 TC-10 DEG F  
3 TC-11 DEG F  
4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-128  
BARREL DATA  
TEST DATE 06-10-86 1131 HOURS

AEROJET  
TechSystems  
COMPANY



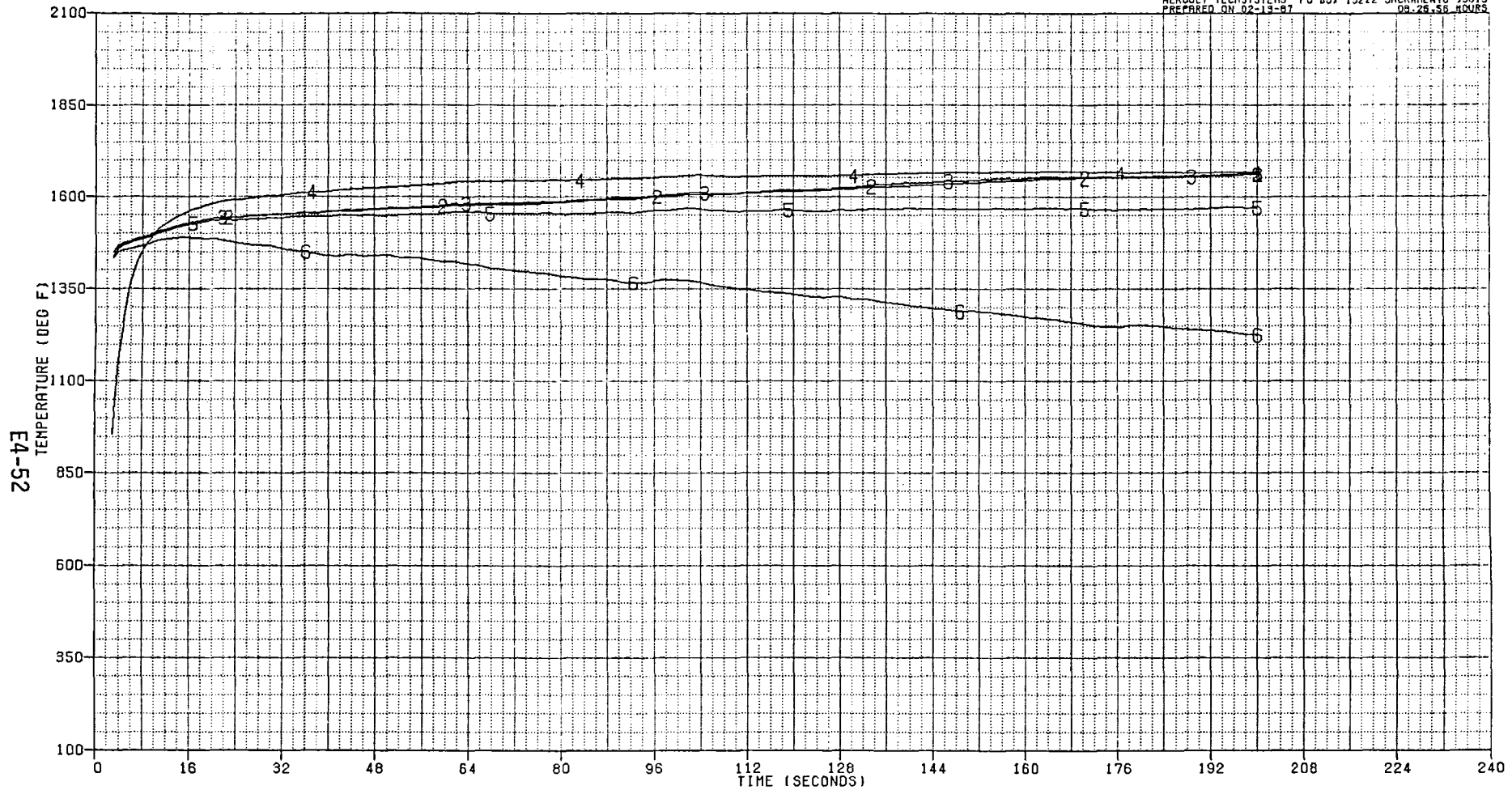
- 1 TWC-2 DEG F  
 2 TWC-26 DEG F  
 3 TWC-27 DEG F  
 4 TWC-31 DEG F  
 5 TWC-32 DEG F  
 6 TWC-33 DEG F  
 7 TC-7C DEG F

AEROJET  
**TechSystems**  
 COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-128

TEST DATE 06-10-86 1131 HOURS

E4-51

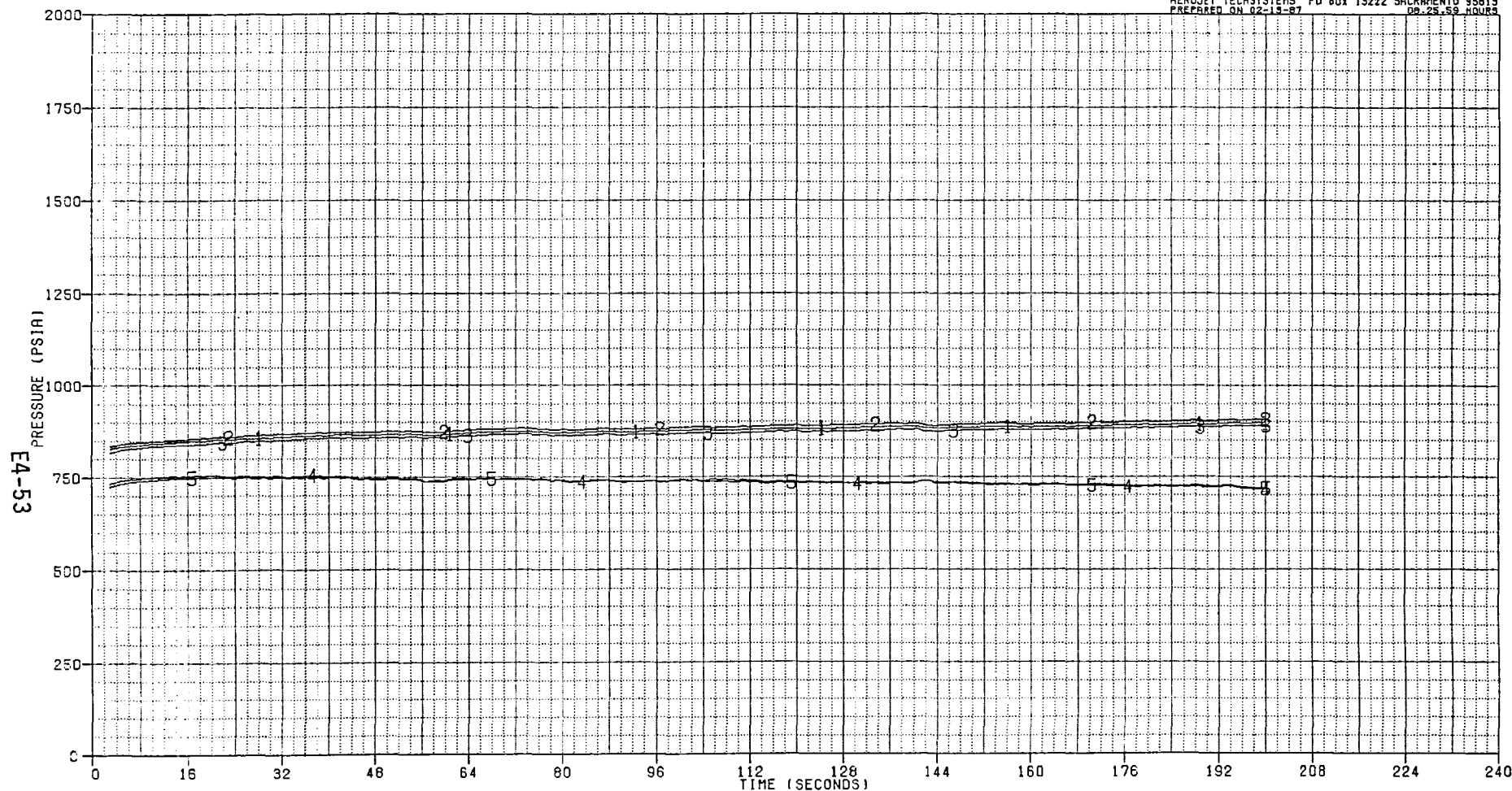


- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-128  
 PRESSURE MEASUREMENTS  
 TEST DATE 06-10-86 1131 HOURS

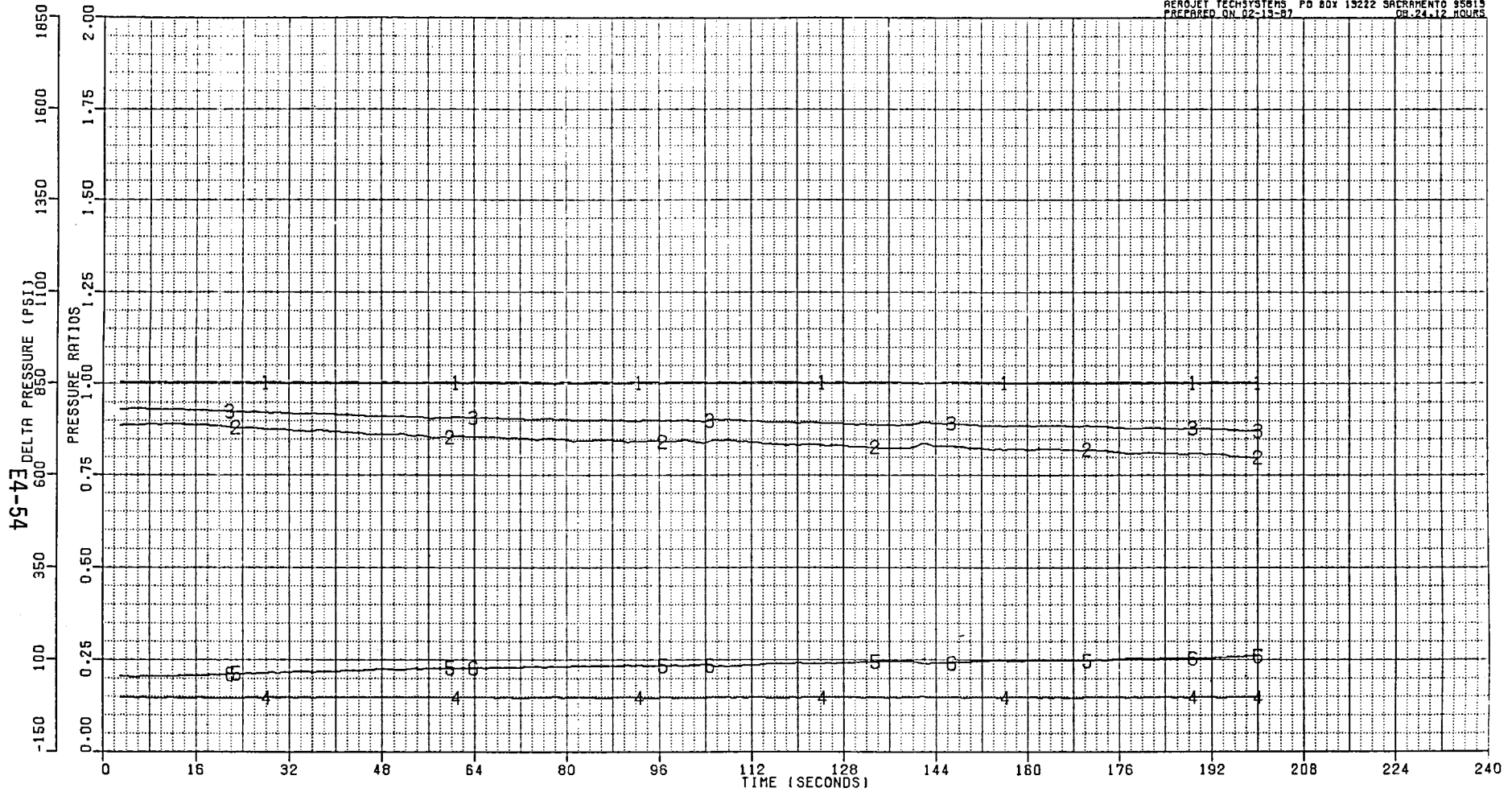




- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-128  
 PRESSURE MEASUREMENTS  
 TEST DATE 06-10-86 1131 HOURS

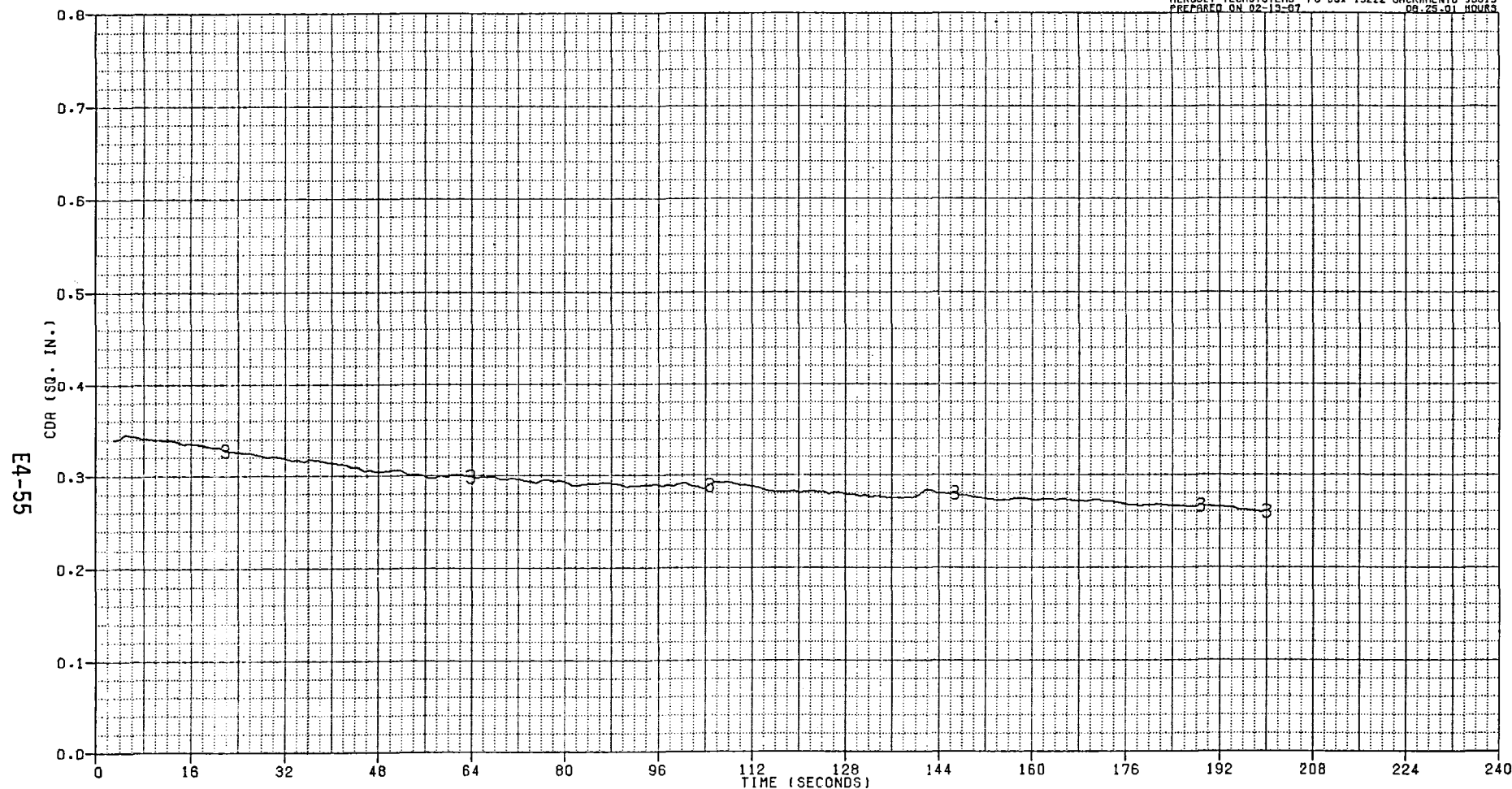




- 1 PRTR
  - 2 PRTS
  - 3 PRTS CORR
  - 4 DPTR
  - 5 DPTS-C
  - 6 DPTS
- PSI  
 PSI  
 PSI

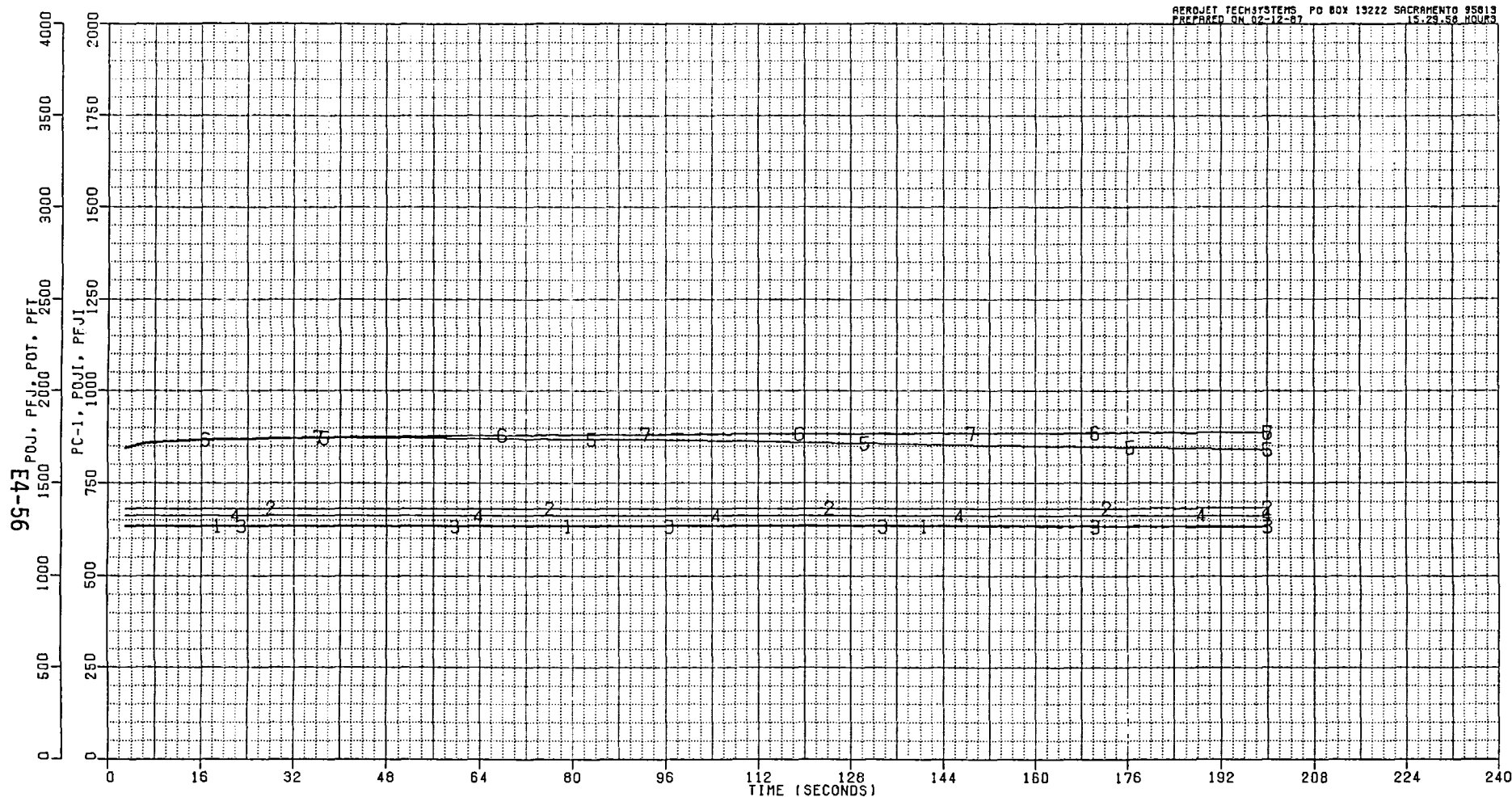


TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-128  
 CHAMBER PRESSURE DROPS AND RATIOS  
 TEST DATE 06-10-86 1131 HOURS



1 NA1 SQ.IN.  
 2 NA2 SQ.IN.  
 3 COA

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-128  
 NOZZLE AREA CHANGE  
 TEST DATE 06-10-86 1131 HOURS



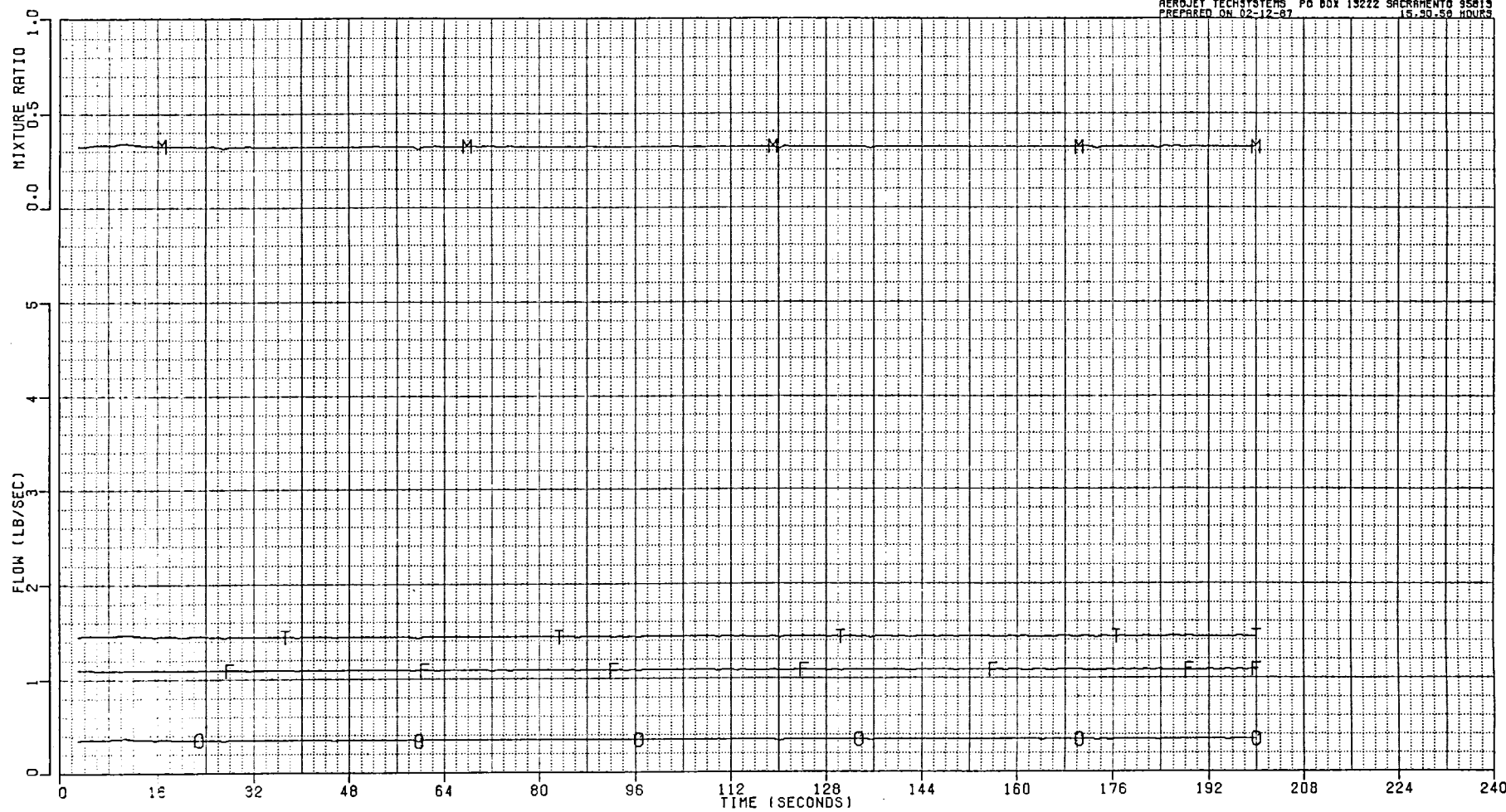
1 POT PSIA  
2 PFI PSIA  
3 P0J PSIA  
4 PFJ PSIA  
5 PC-1 PSIA  
6 P0JI PSIA  
7 PFJI PSIA

AERJET  
**TechSystems**  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-229-A6-129

TEST DATE 06-10-86 1252 HOURS

EA-57

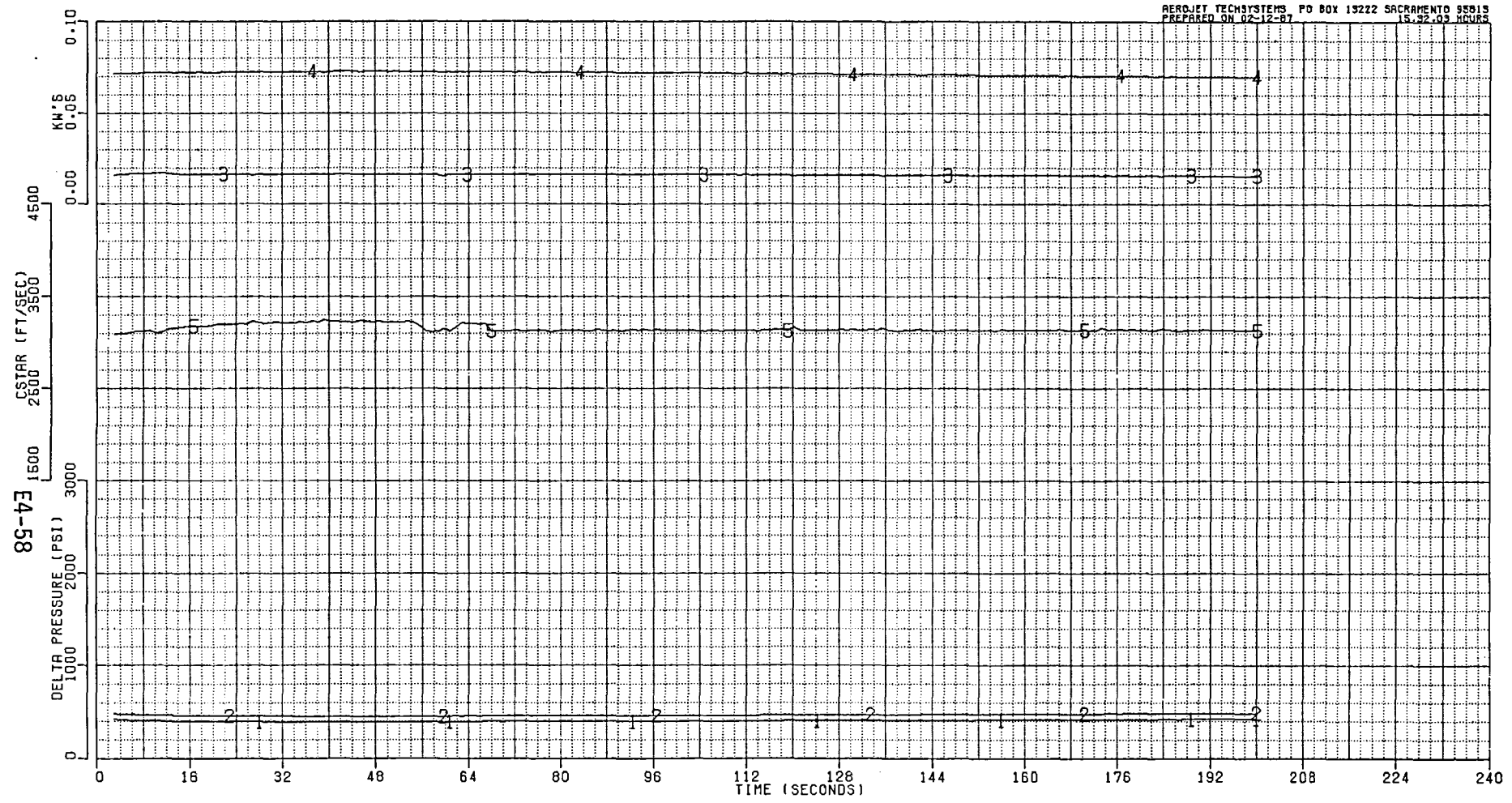


F WF LES/SEC  
 O WOX LES/SEC  
 T WTOT LES/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-129

TEST DATE 06-10-86 1252 HOURS



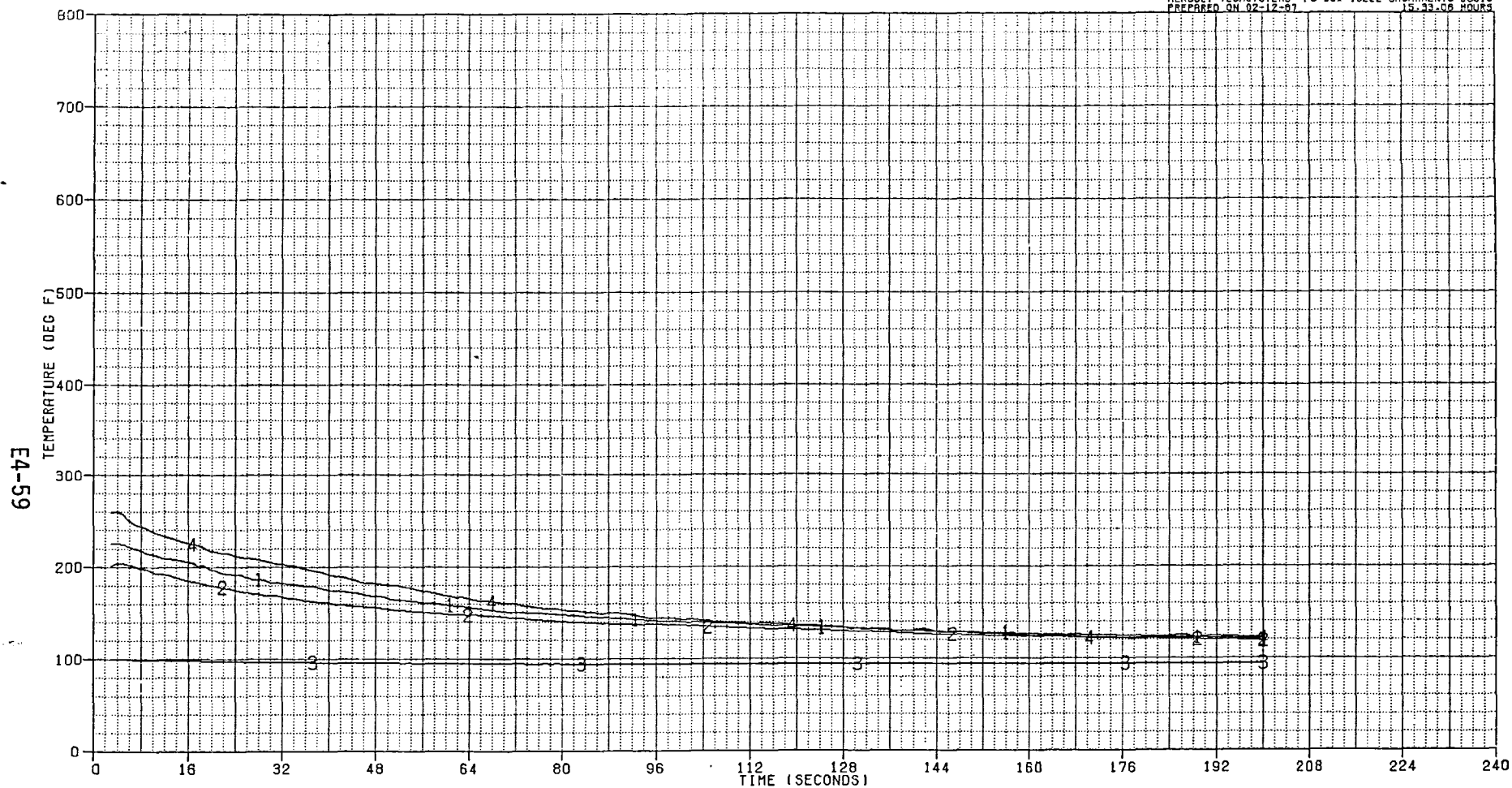


- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWQJ PSI
- 4 KWFJ FT/SEC
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC



INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-229-A6-129  
 TEST DATE 06-10-86 1252 HOURS

E4-58

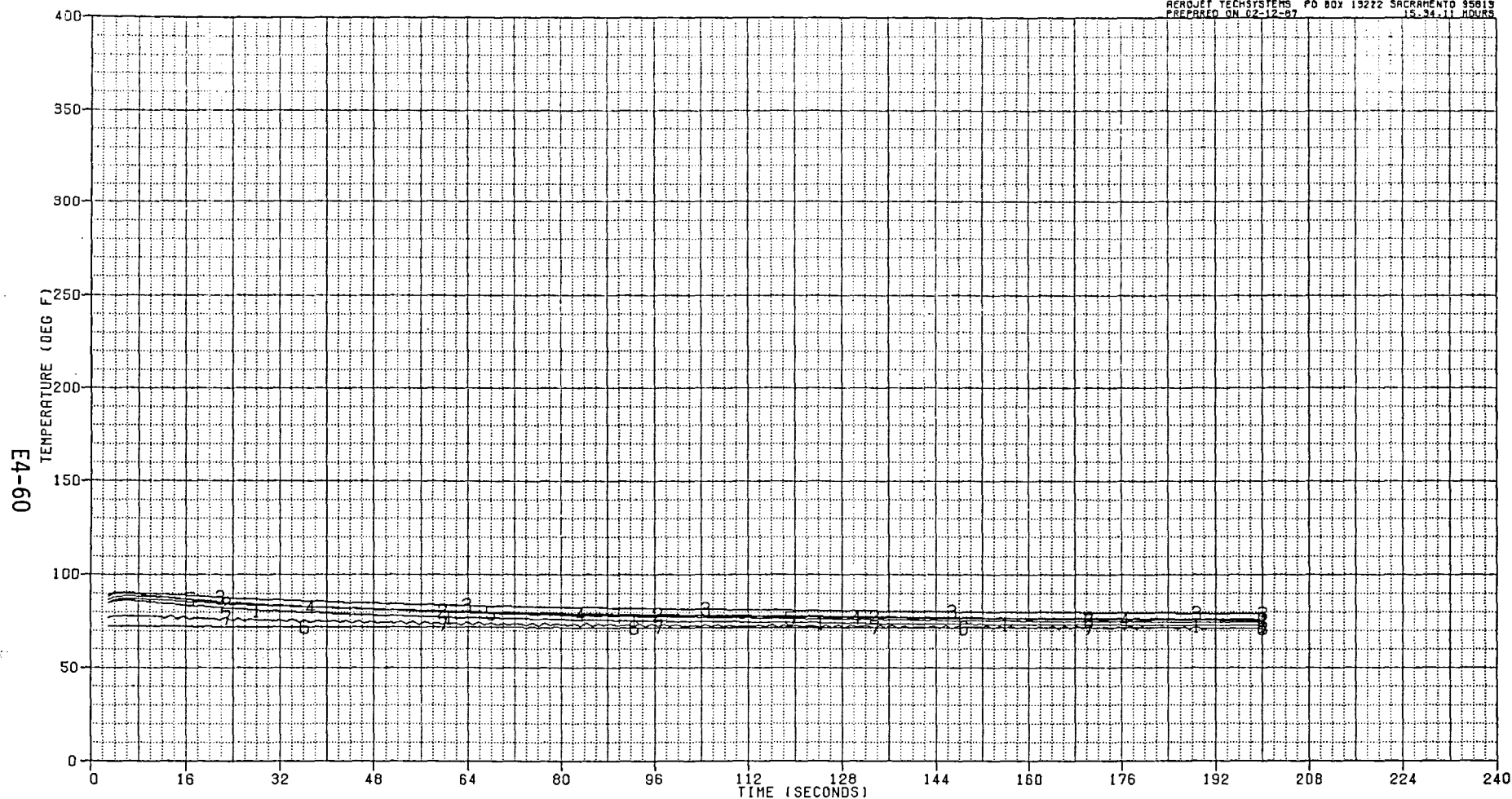


1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-129  
 BARREL DATA  
 TEST DATE 06-10-86 1252 HOURS

AEROJET  
**TechSystems**  
 COMPANY





E4-60

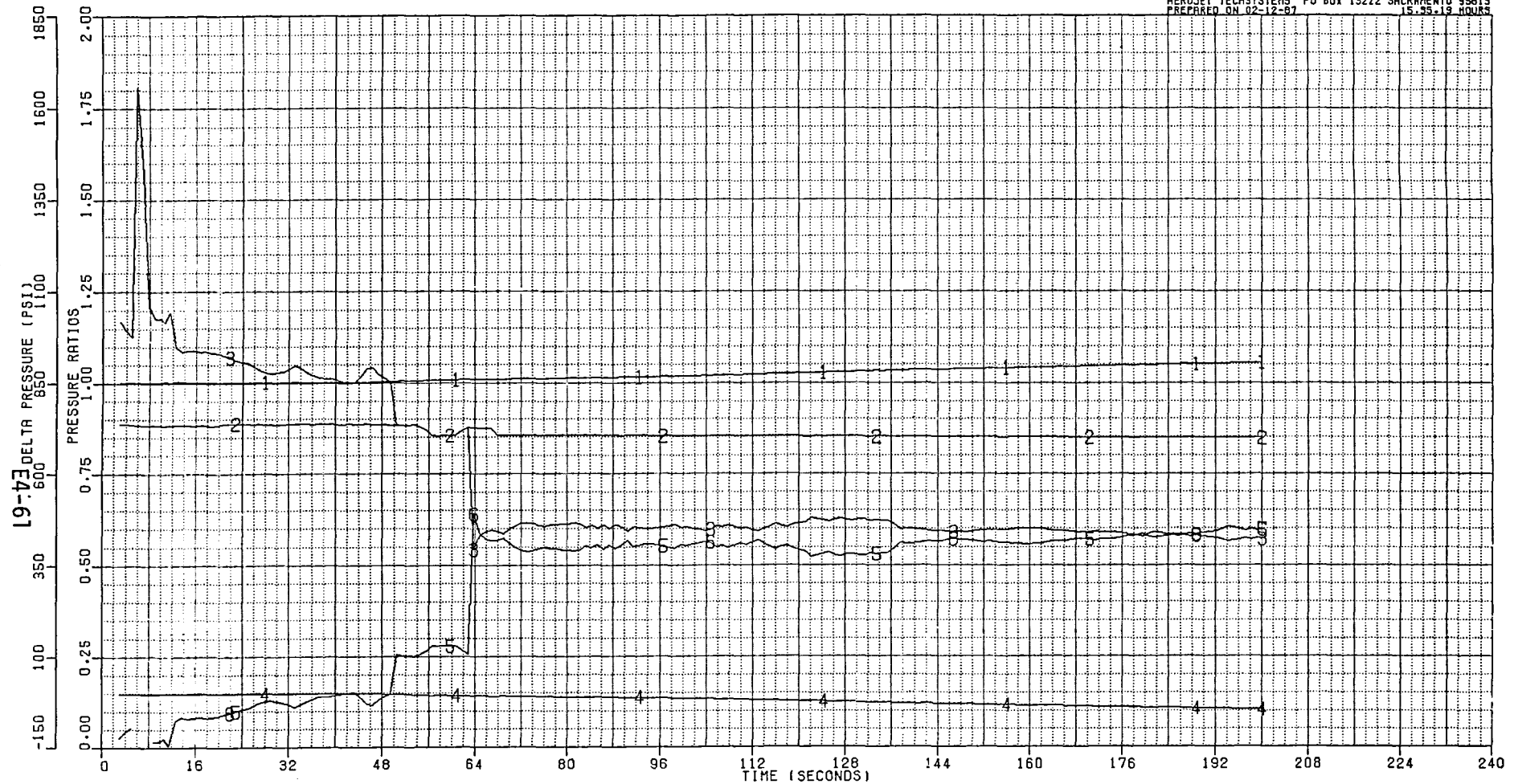
- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F



COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-129

TEST DATE 06-10-86 1252 HOURS

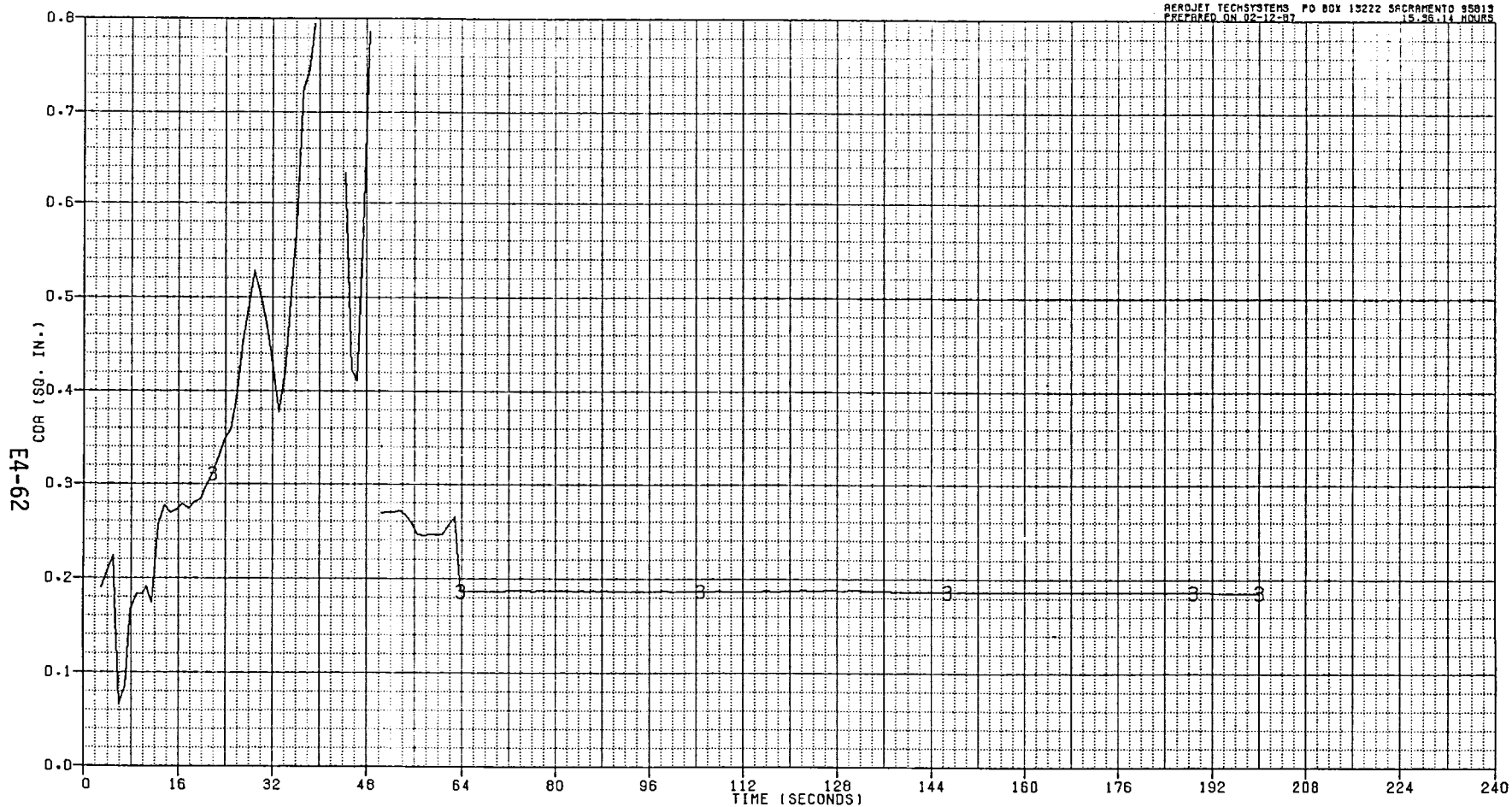




- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR      PSI
- 5 DPTS-C    PSI
- 6 DPTS      PSI



TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-129  
 CHAMBER PRESSURE DROPS AND RATIOS  
 TEST DATE 06-10-86 1252 HOURS

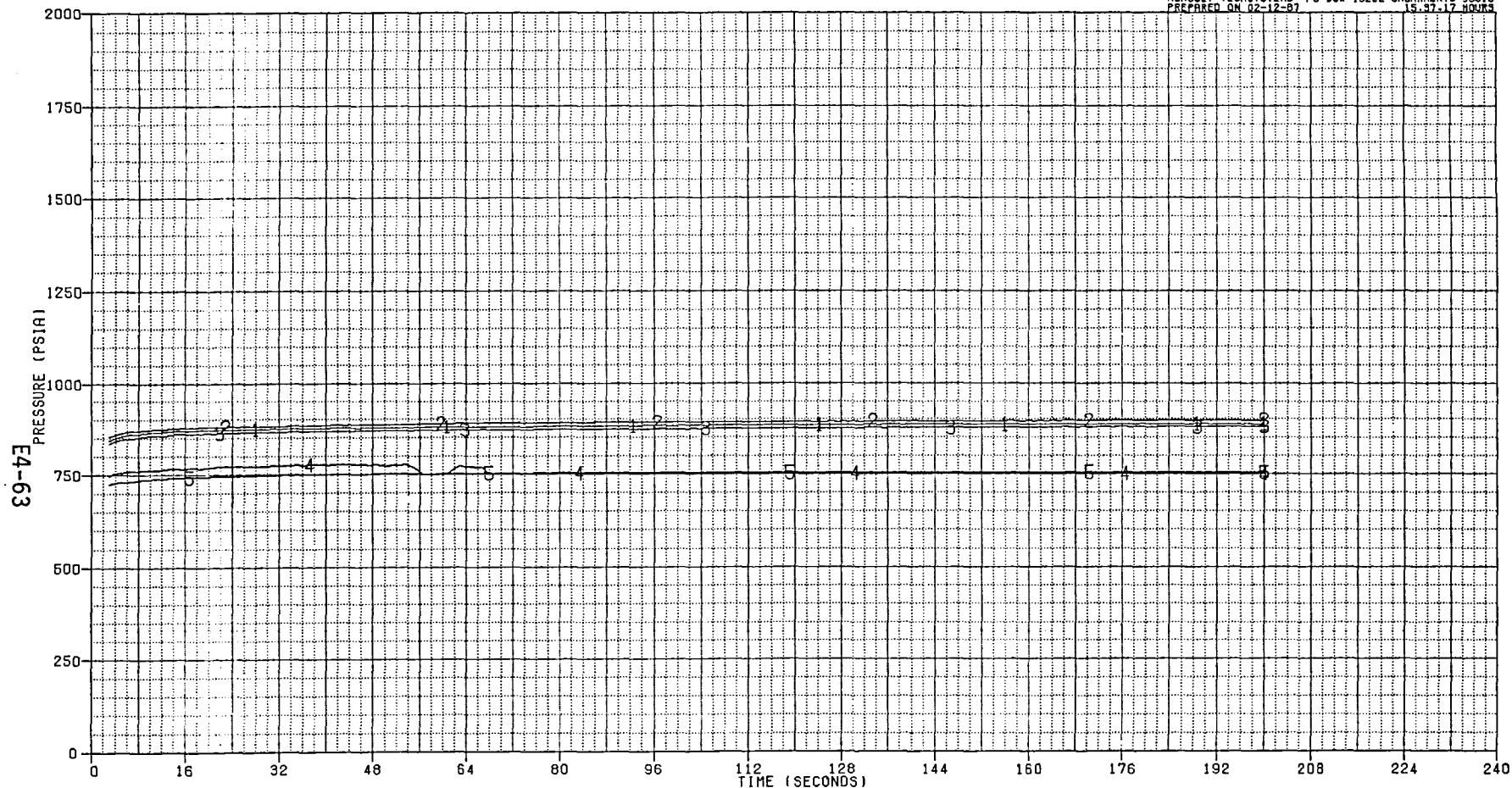


1 NA1  
2 NA2  
3 CDA

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-129  
NOZZLE AREA CHANGE  
TEST DATE 06-10-86 1252 HOURS

AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-12-87 15.37.17 HOURS

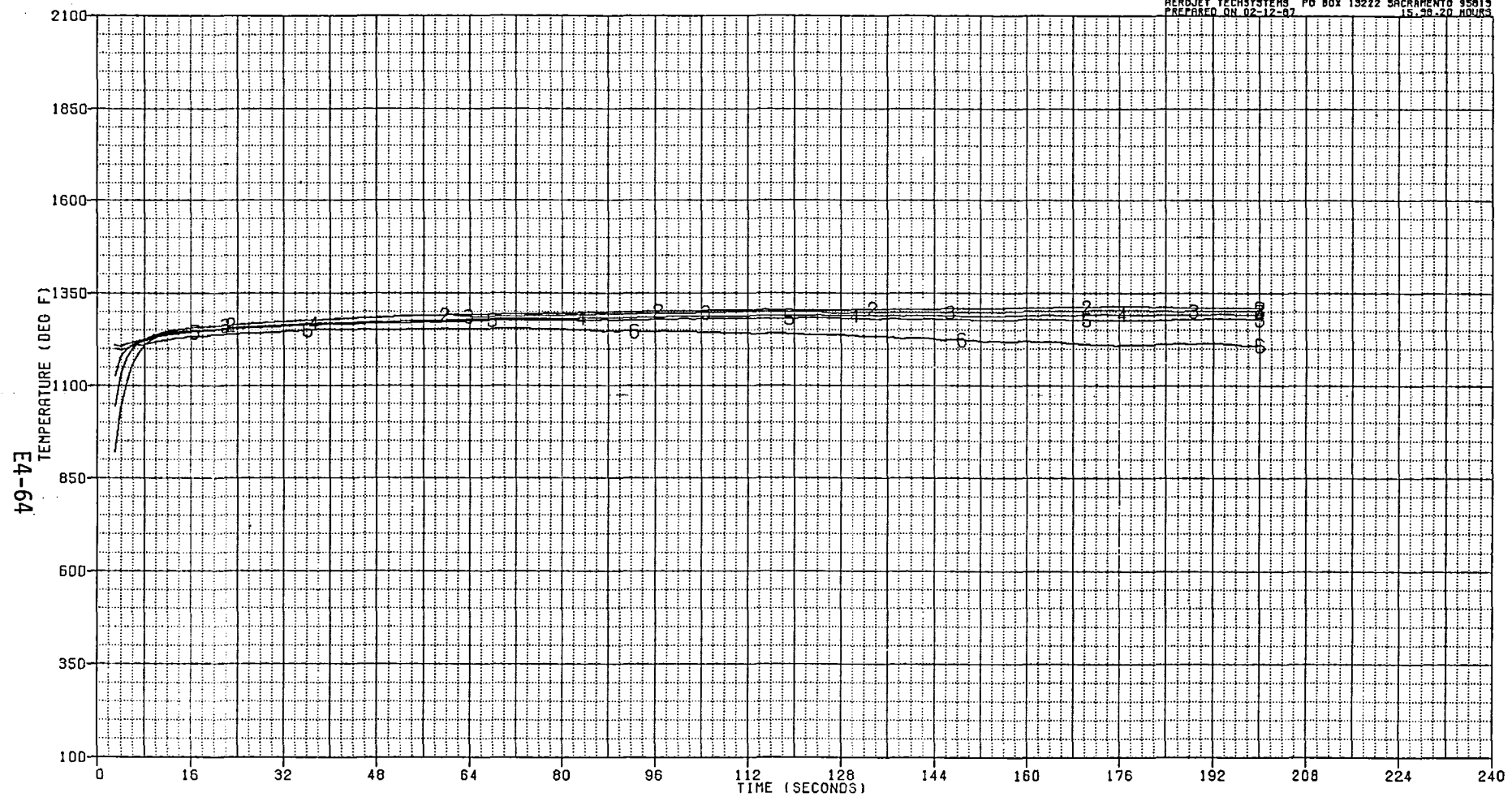


E4-63

- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA

AEROJET  
**@TechSystems**  
 COMPANY

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-129  
 PRESSURE MEASUREMENTS  
 TEST DATE 06-10-86 1252 HOURS

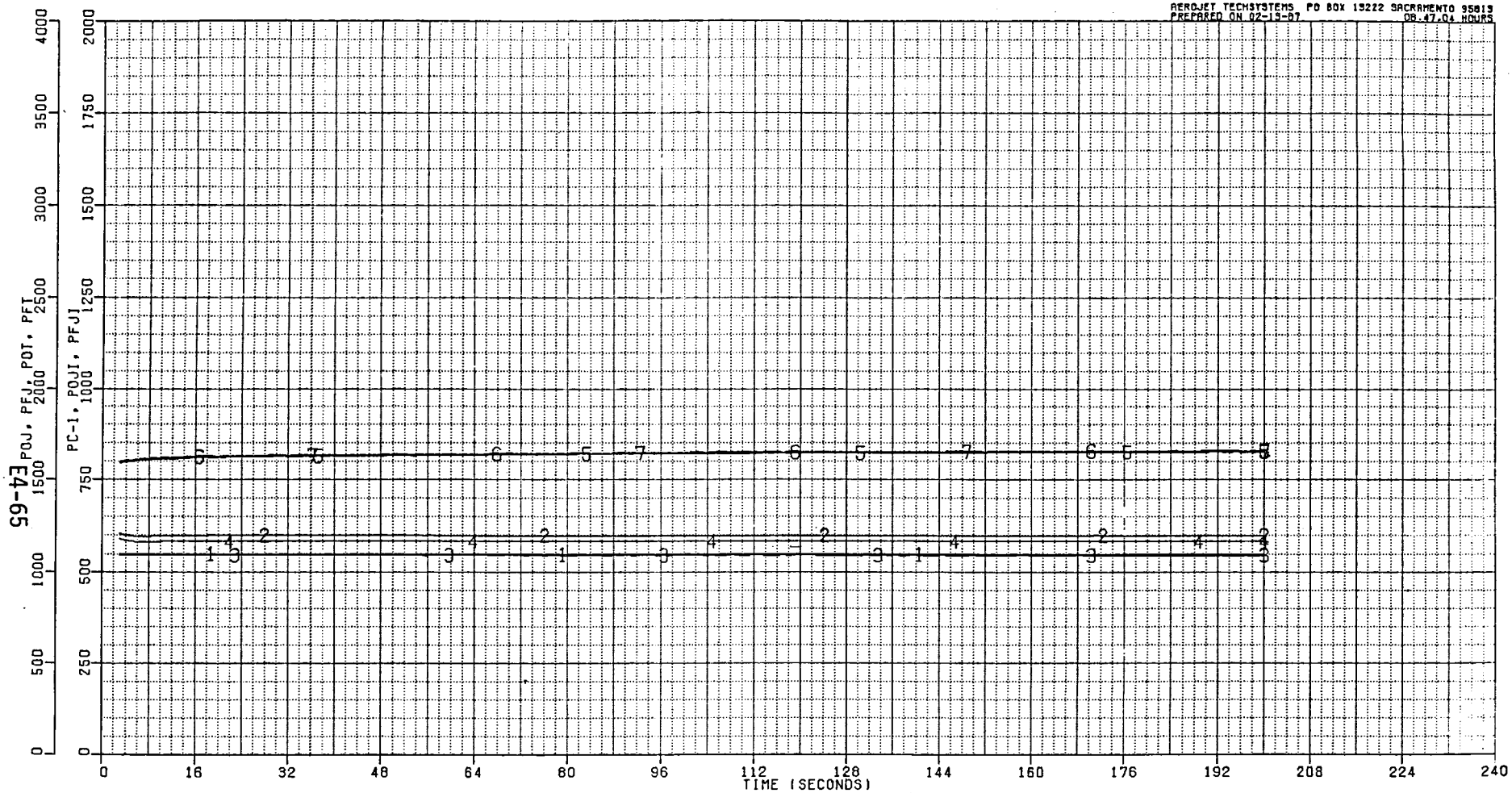


E4-64

- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-129  
PRESSURE MEASUREMENTS  
TEST DATE 06-10-86 1252 HOURS



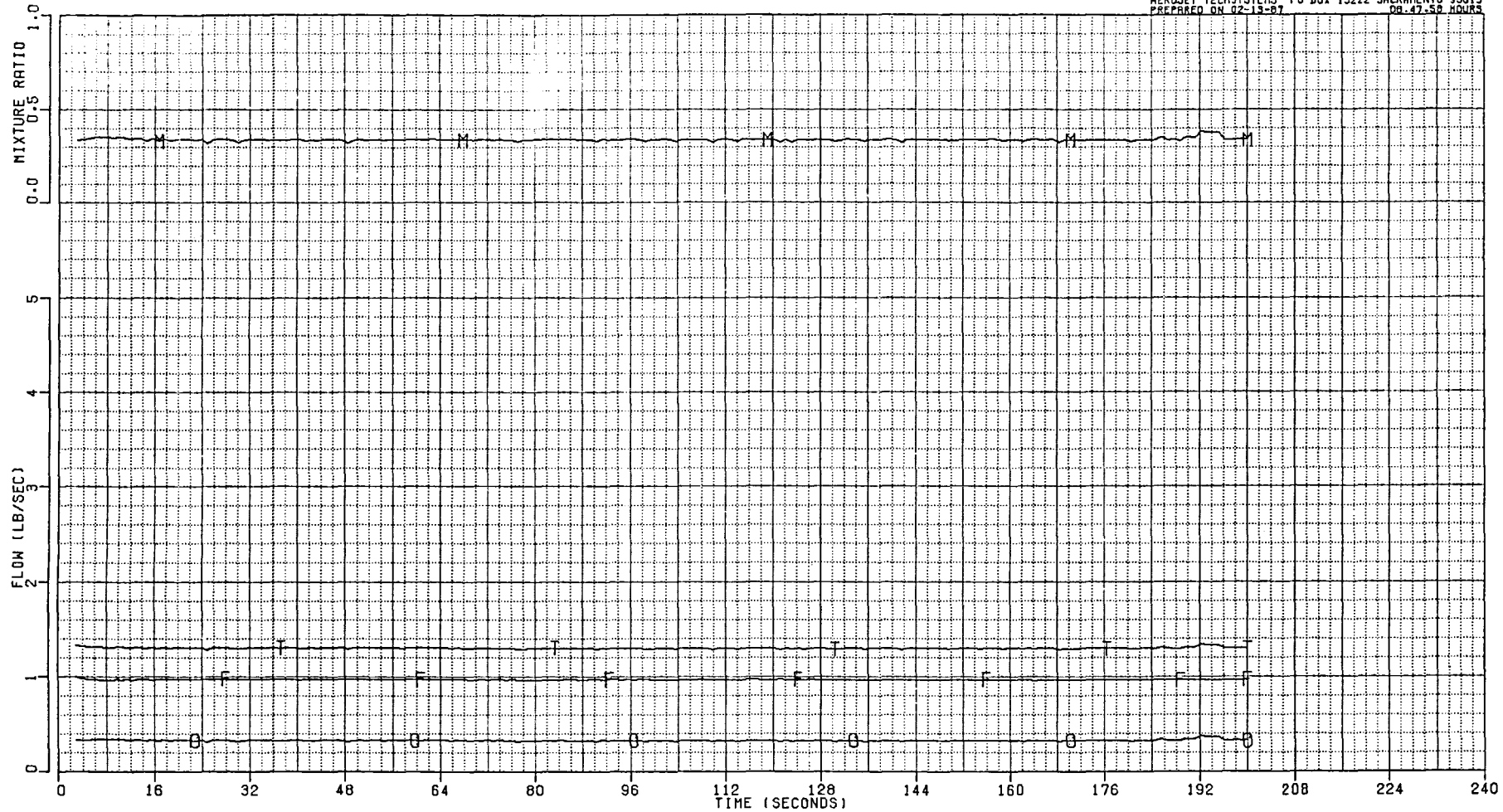
1 POT PSIA  
2 PFT PSIA  
3 POJ PSIA  
4 PFJ PSIA  
5 PC-1 PSIA  
6 POJI PSIA  
7 PFJI PSIA

AEROJET  
**TechSystems**  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-229-A6-130

TEST DATE 06-10-86 1310 HOURS

E4-66

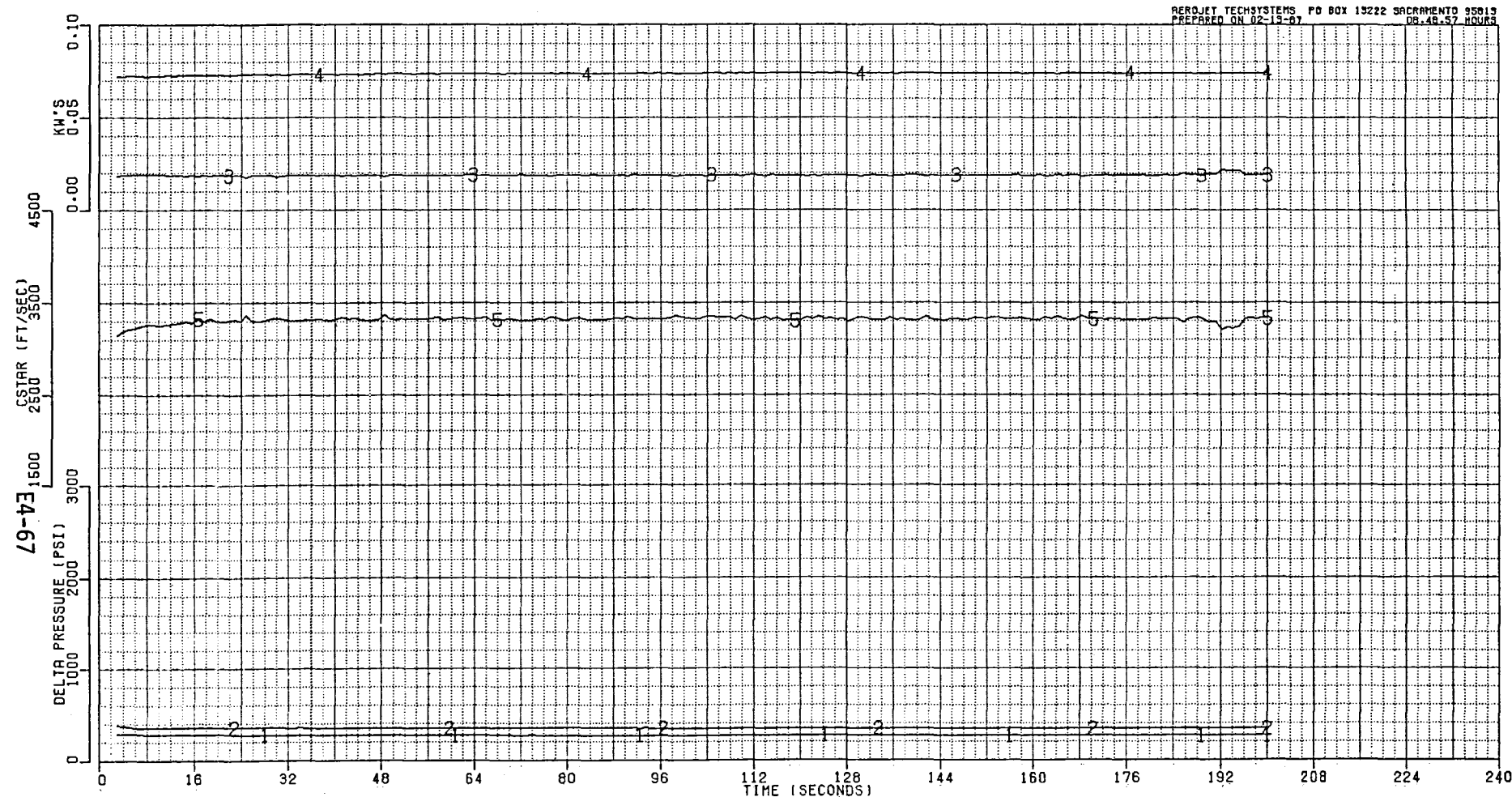


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-130

TEST DATE 06-10-86 1310 HOURS

AEROJET  
**@TechSystems**  
 COMPANY



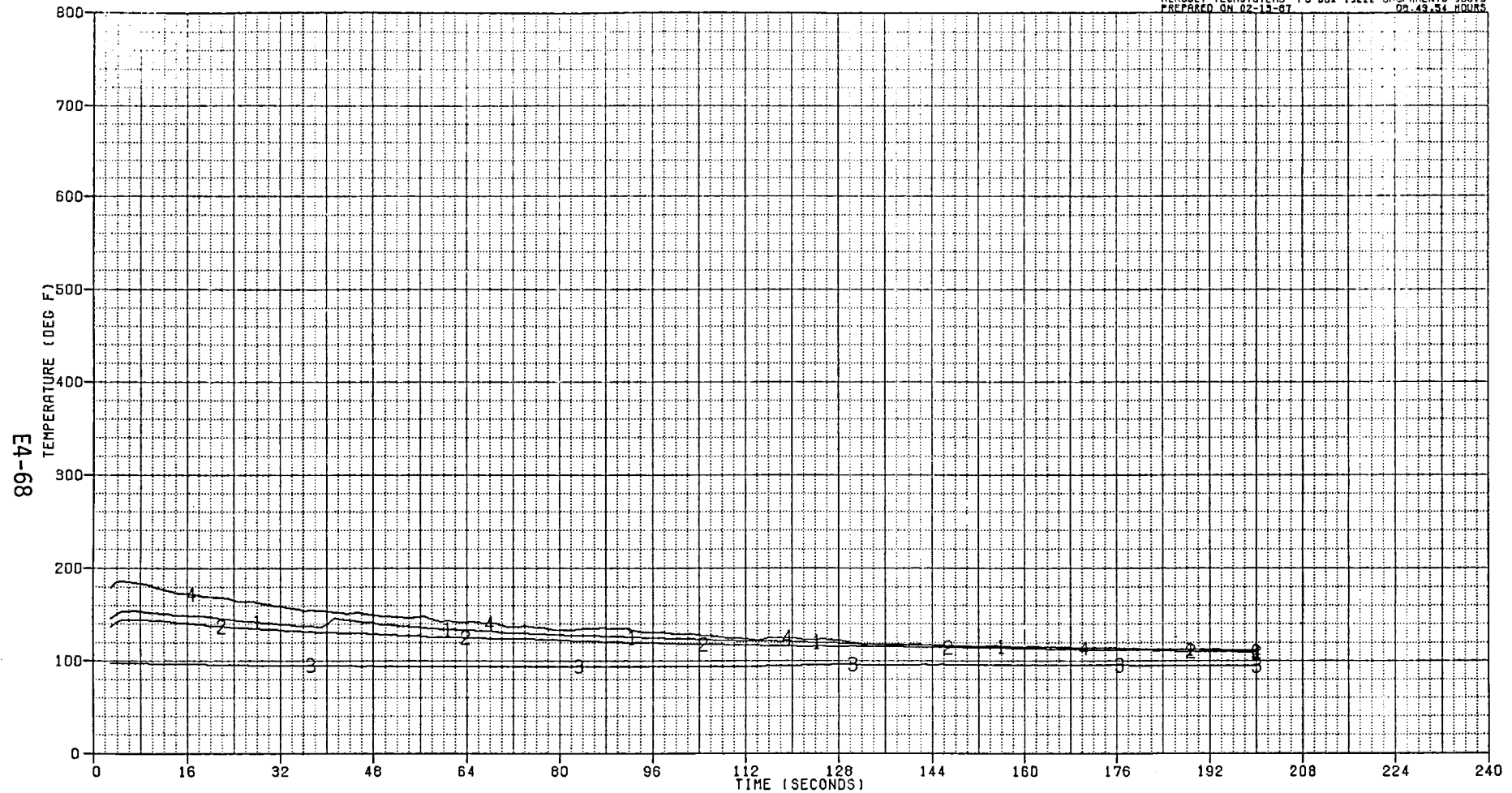
|          |        |
|----------|--------|
| 1 DPOJ   | PSI    |
| 2 DPFJ   | PSI    |
| 3 KWQJ   |        |
| 4 KWFJ   |        |
| 5 CSTRPB | FT/SEC |
| 6 CSTAR  | FT/SEC |

AEROJET  
**TechSystems**  
 COMPANY

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-229-A6-130

TEST DATE 06-10-86 1310 HOURS



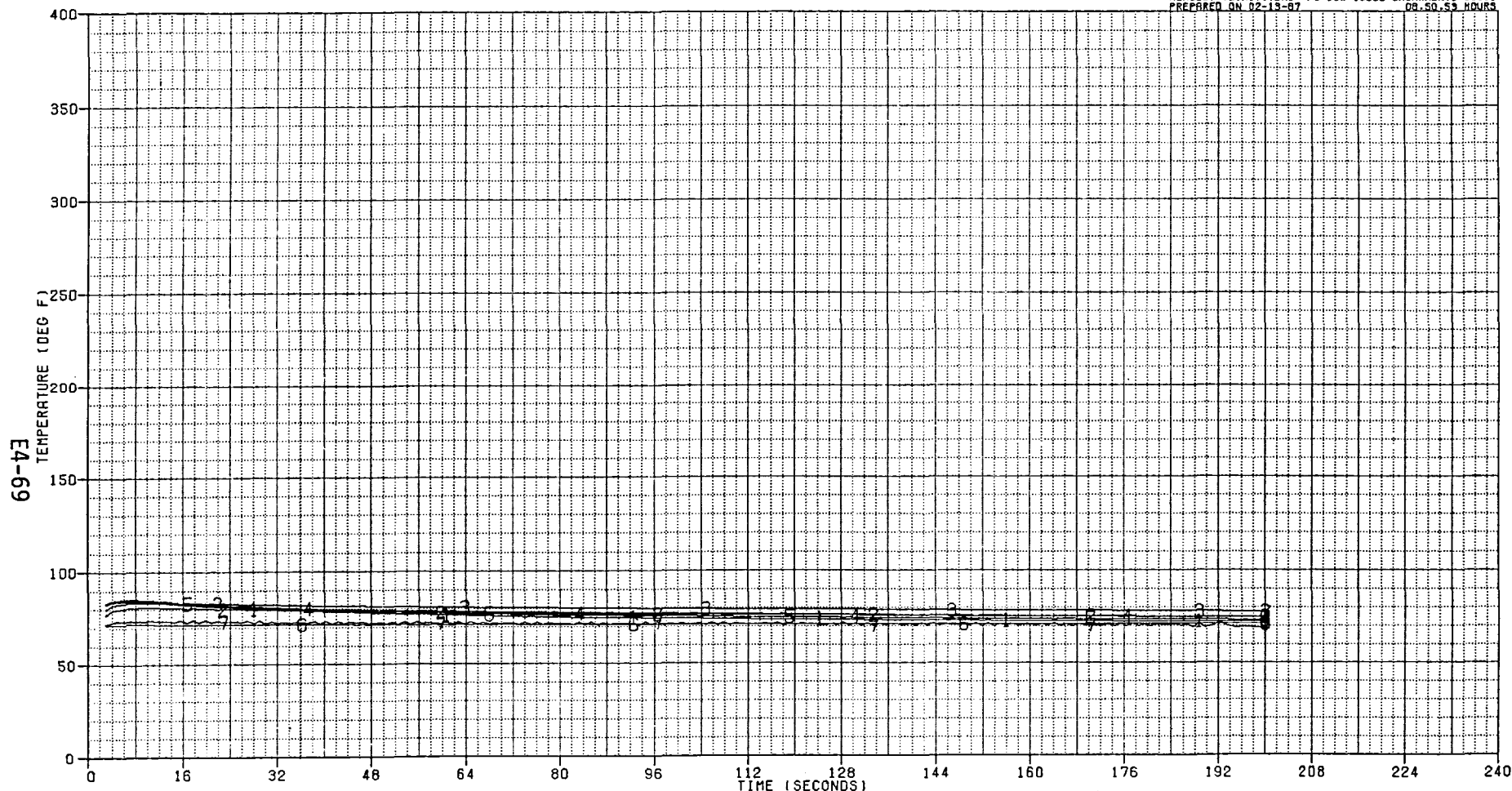


1 TC-7 DEG F  
2 TC-10 DEG F  
3 TC-11 DEG F  
4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-130  
BARREL DATA  
TEST DATE 06-10-86 1310 HOURS

AEROJET  
@TechSystems  
COMPANY



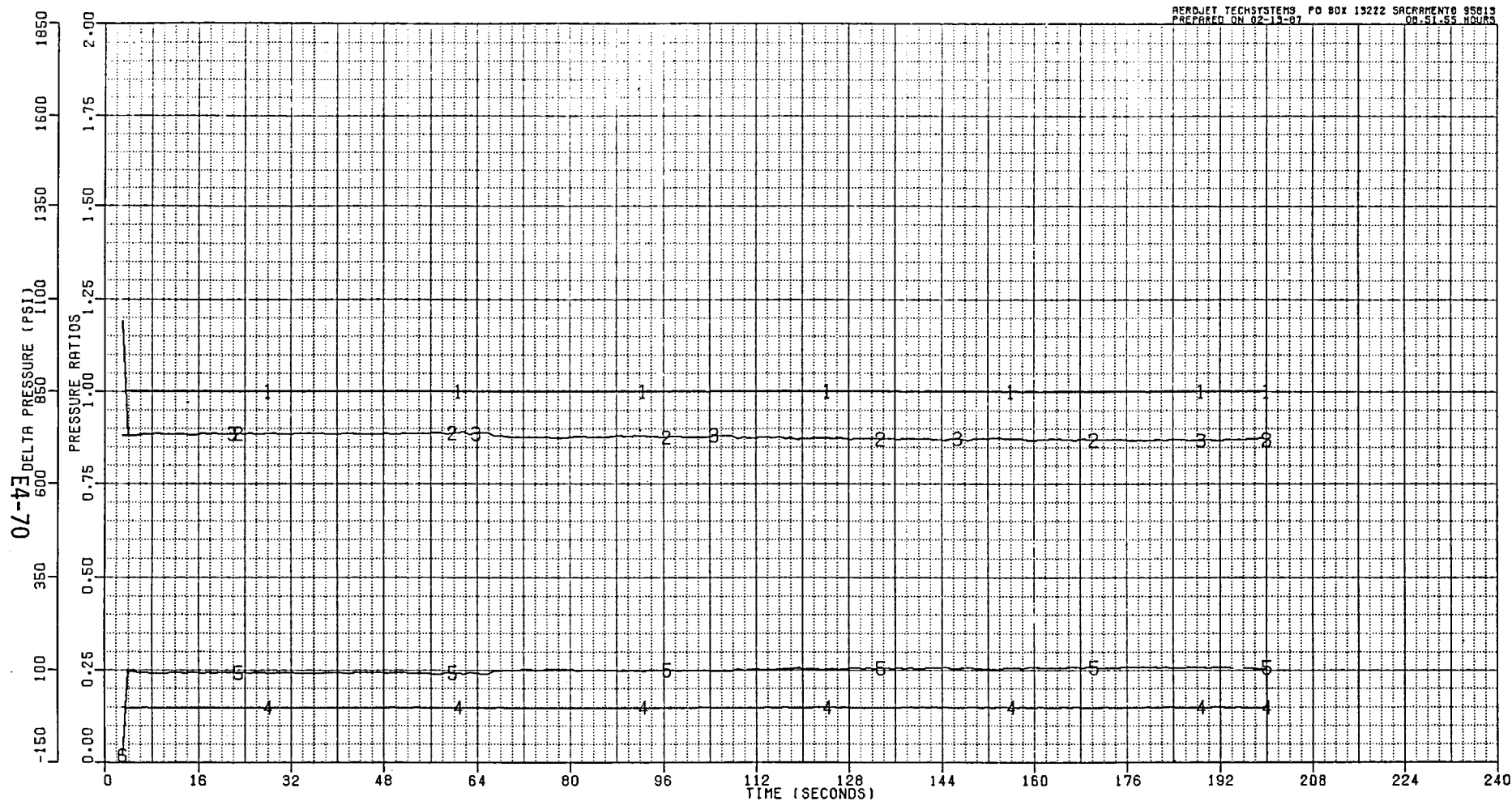


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

AEROJET  
**@TechSystems**  
 COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-130

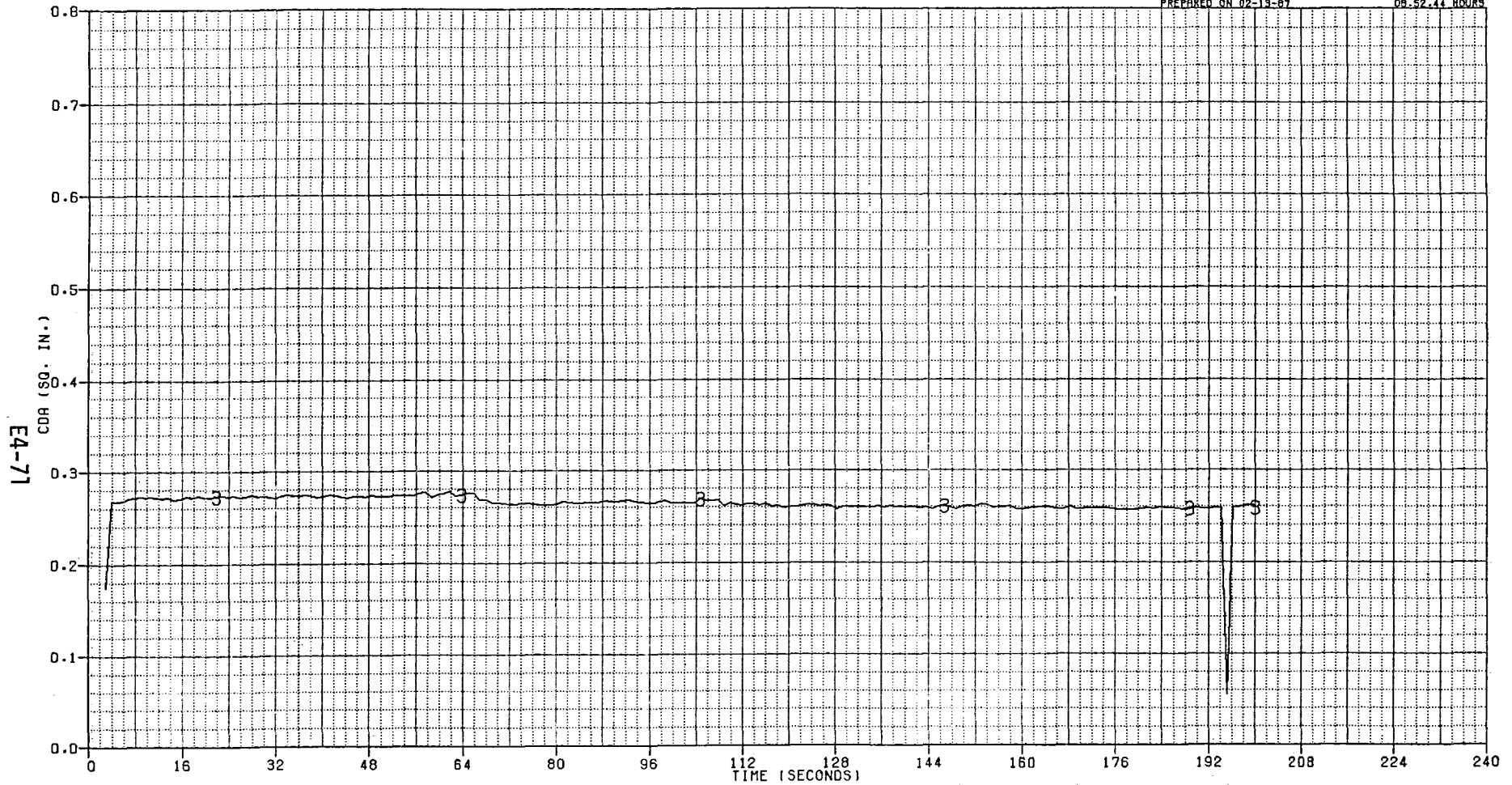
TEST DATE 06-10-86 1310 HOURS



- 1 PRTR
  - 2 PRTS
  - 3 PRTS CORR
  - 4 DPTR
  - 5 DPTS-C
  - 6 DPTS
- PSI  
PSI  
PSI



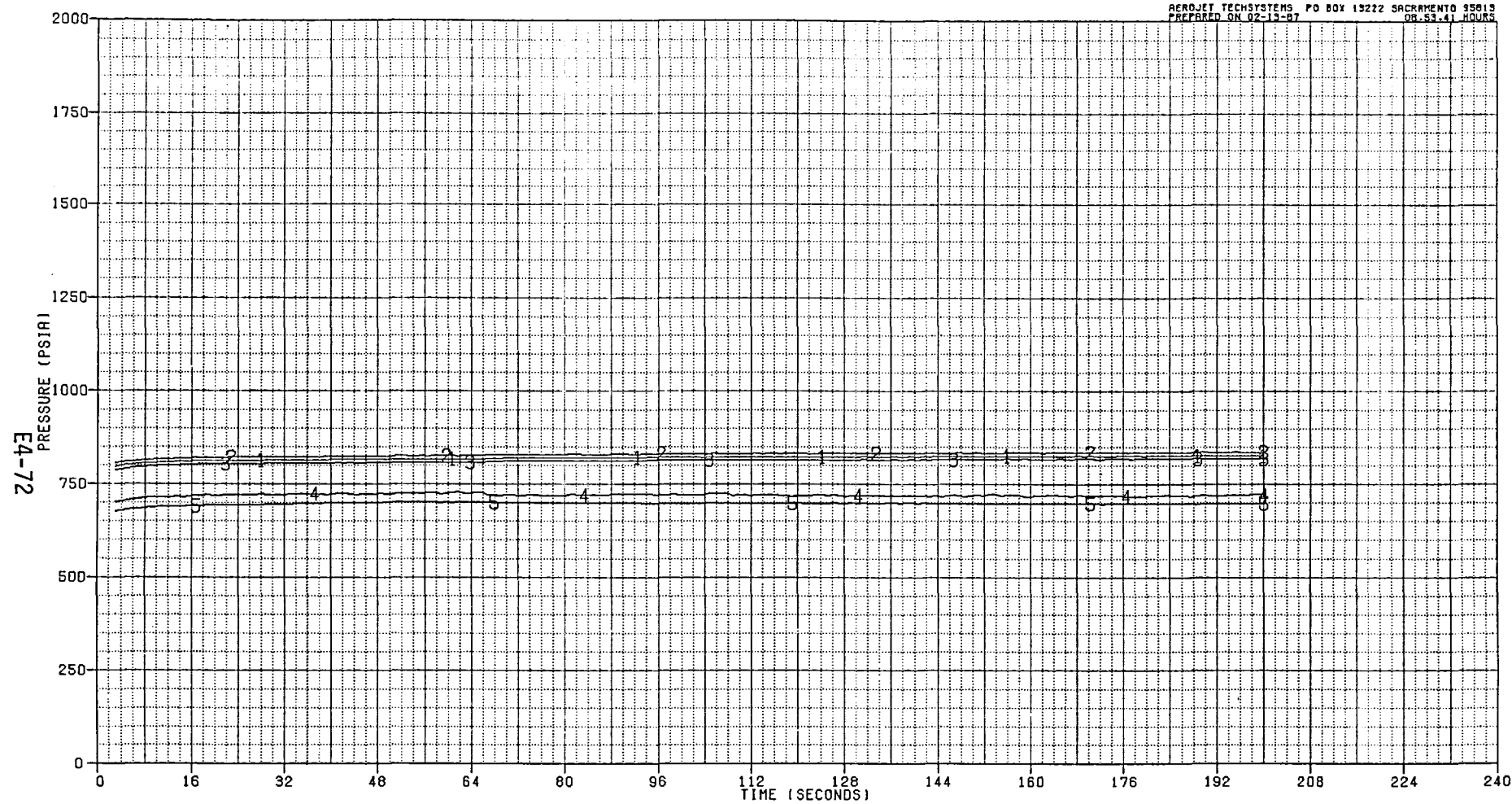
TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-130  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 06-10-86 1310 HOURS



1 NR1 SO.IN.  
2 NR2 SO.IN.  
3 CDR

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-130  
NOZZLE AREA CHANGE  
TEST DATE 06-10-86 1310 HOURS

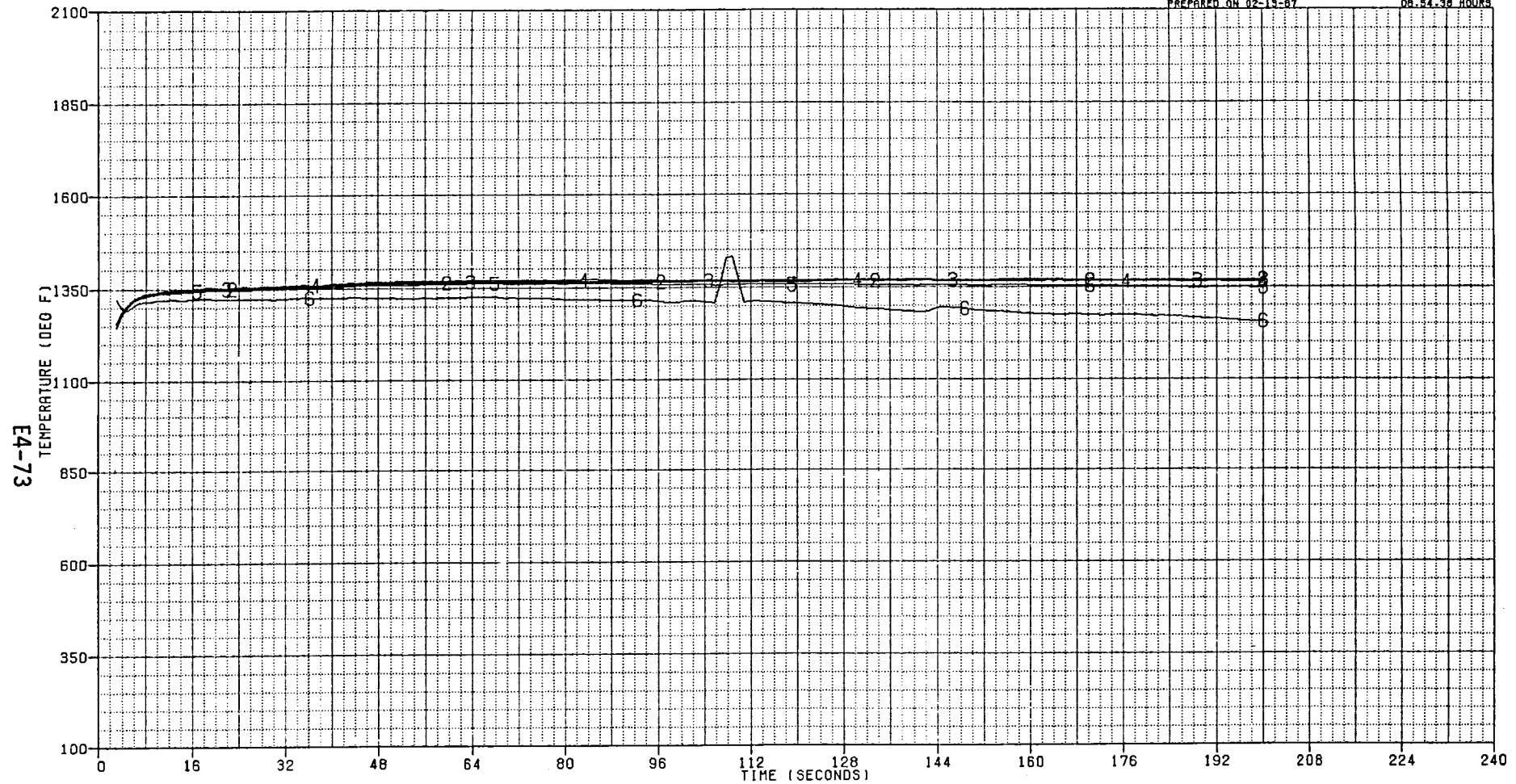
AEROJET  
TechSystems  
COMPANY



- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA



TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-130  
PRESSURE MEASUREMENTS  
TEST DATE 06-10-86 1310 HOURS

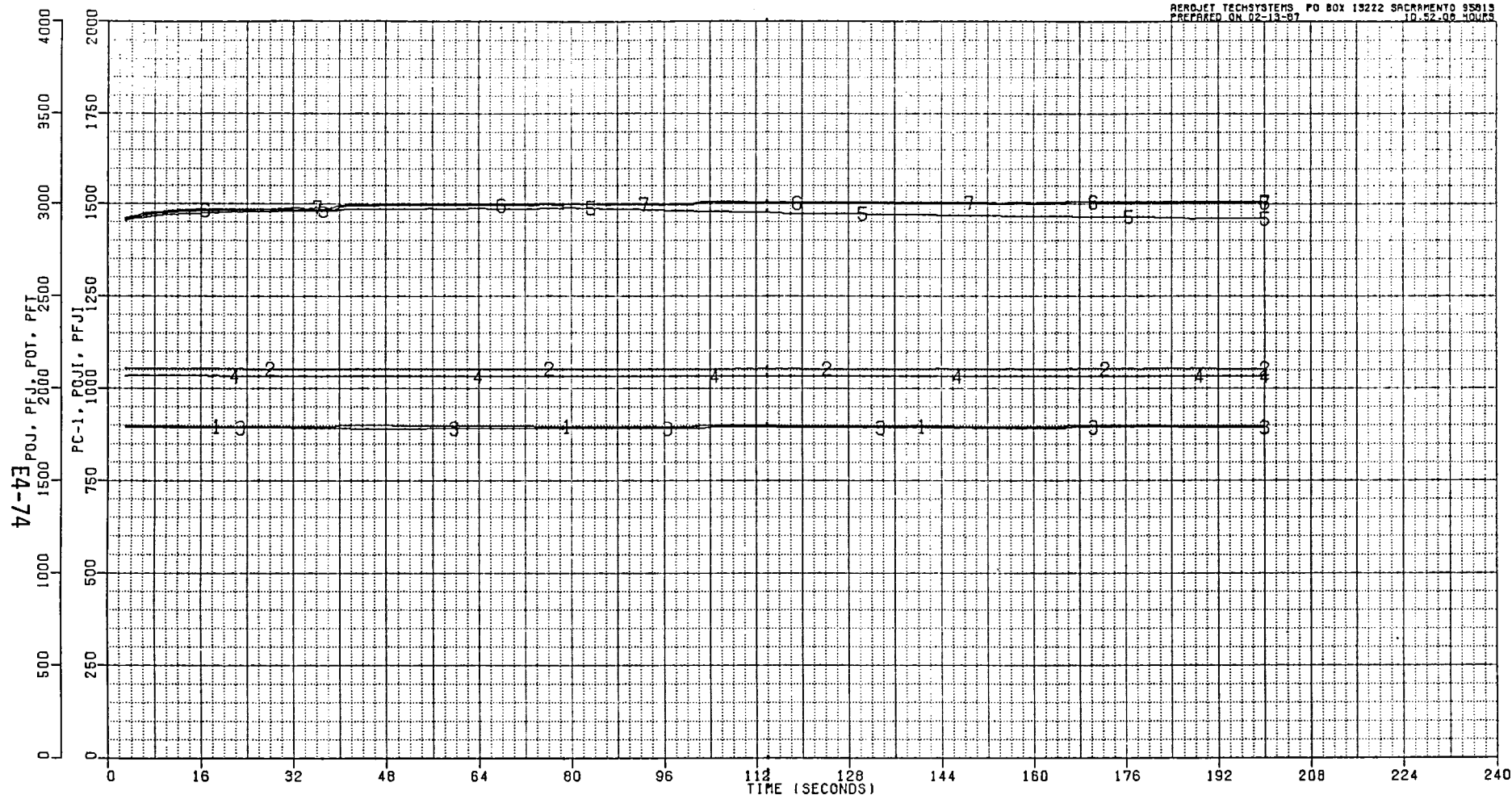


E4-73

- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F

AEROJET  
**TechSystems**  
 COMPANY

GAS TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-130  
 PRESSURE MEASUREMENTS  
 TEST DATE 06-10-86 1310 HOURS



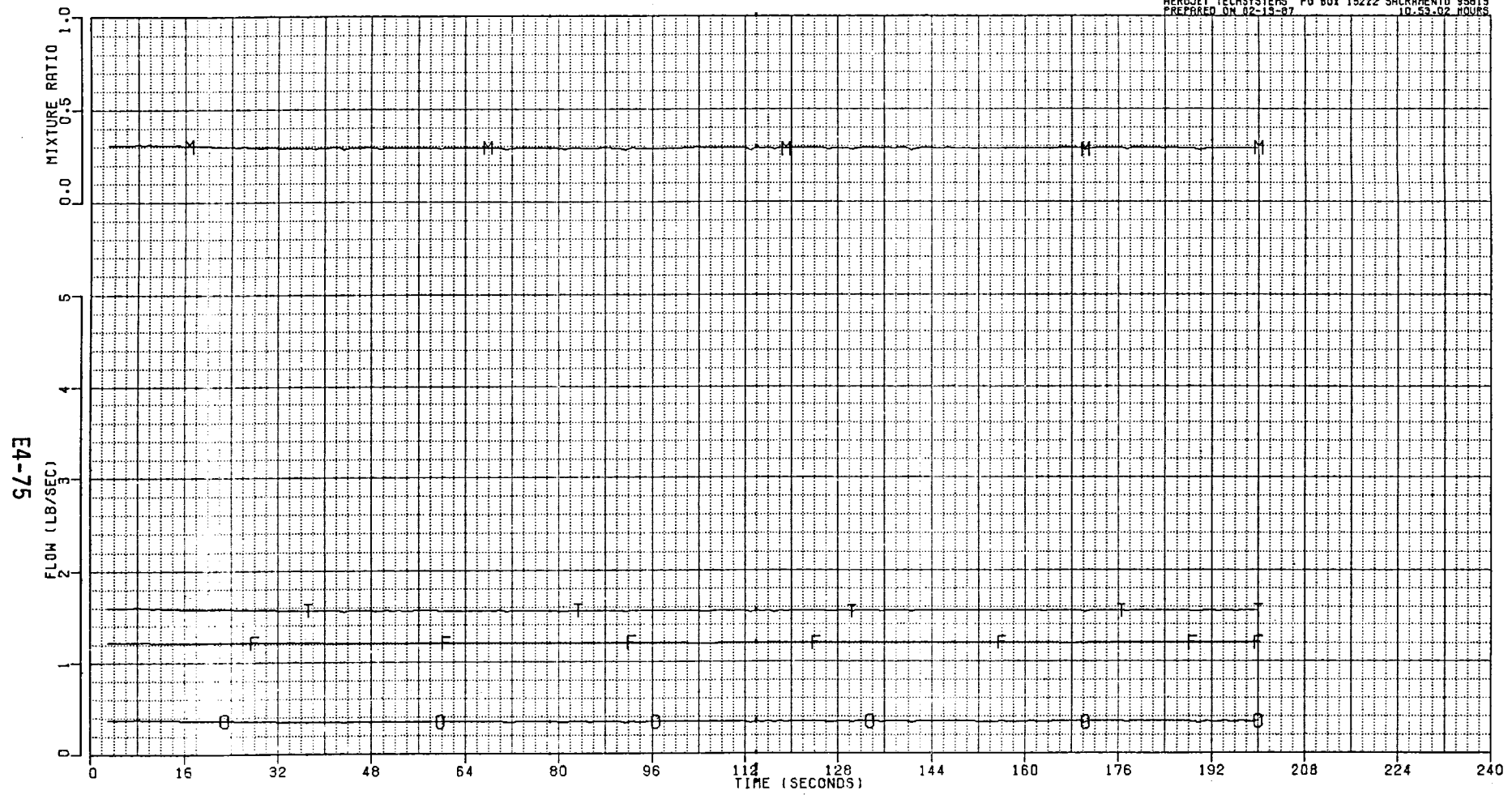
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-13-87 10:52:00 HOURS

1 POT PSIA  
2 PFT PSIA  
3 PQJ PSIA  
4 PFI PSIA  
5 PC-1 PSIA  
6 PQJI PSIA  
7 PFJI PSIA

AEROJET  
TechSystems  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-229-A6-131

TEST DATE 06-19-86 1000 HOURS

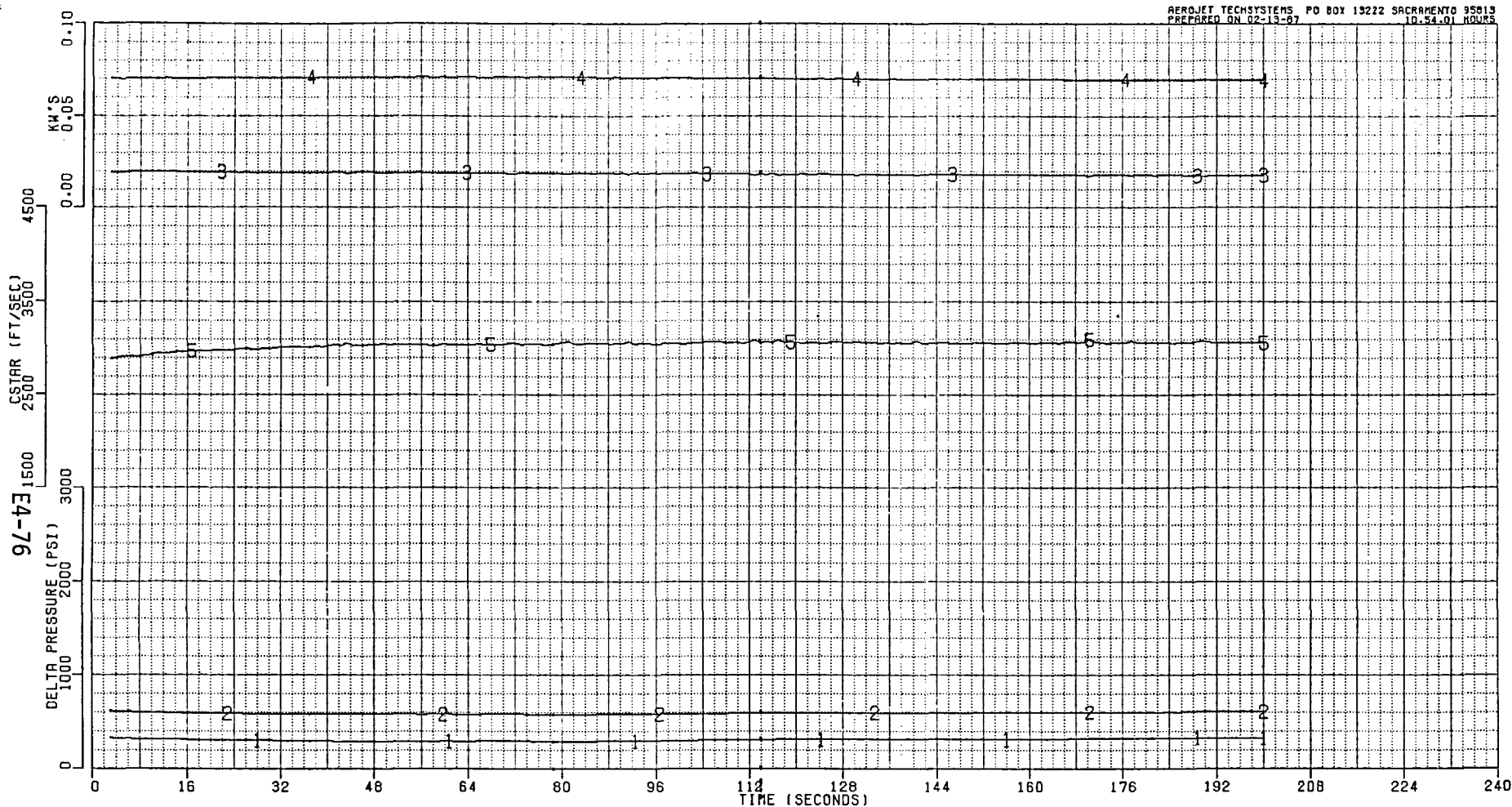


INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-131

TEST DATE 06-19-86 1000 HOURS







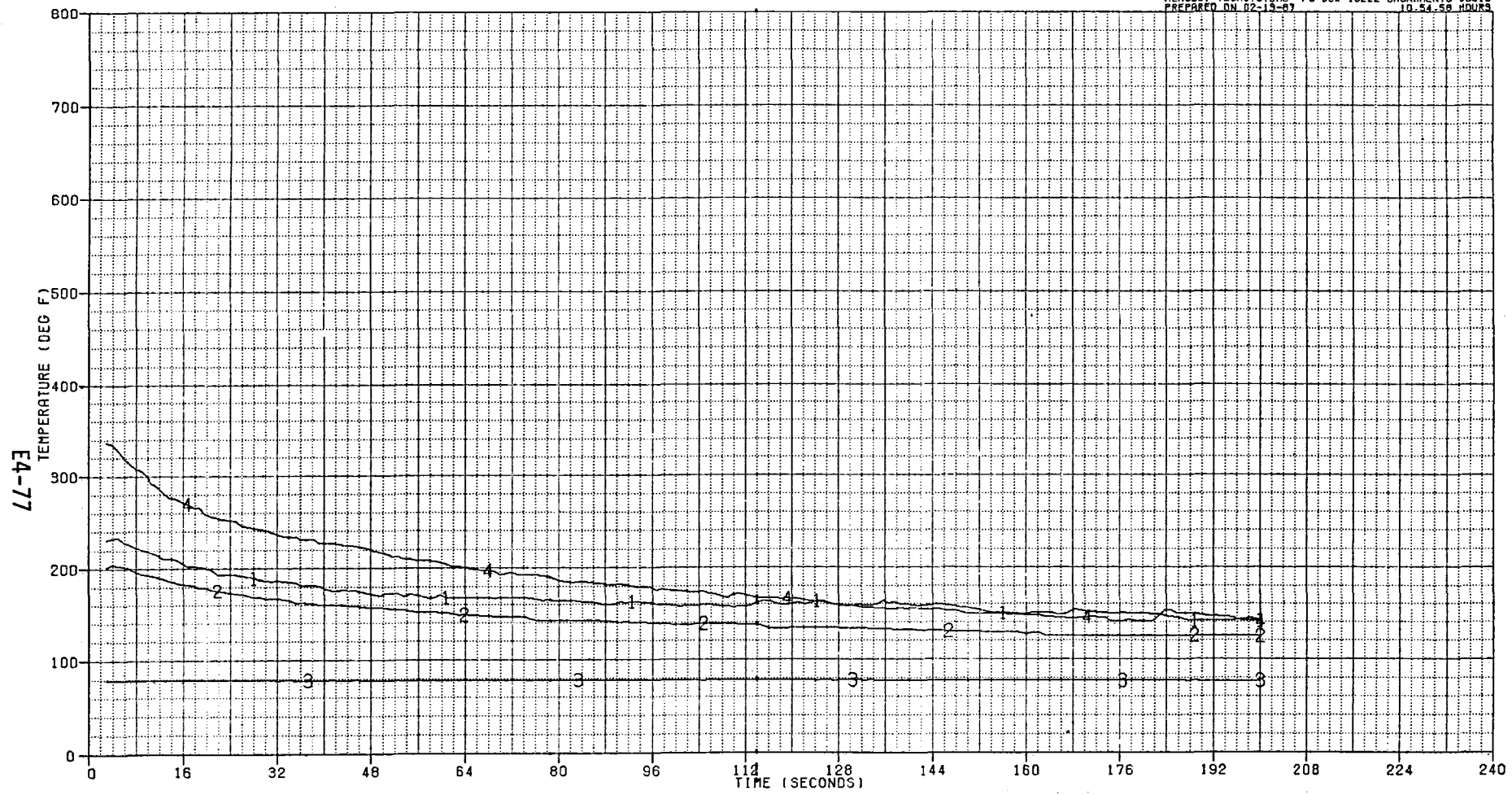
1 DPOJ PSI  
2 DPFJ PSI  
3 KWOJ  
4 KWFJ  
5 CSTRPB FT/SEC  
6 CSTAR FT/SEC

AEROJET  
**TechSystems**  
COMPANY

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-229-A6-131

TEST DATE 06-19-86 1000 HOURS

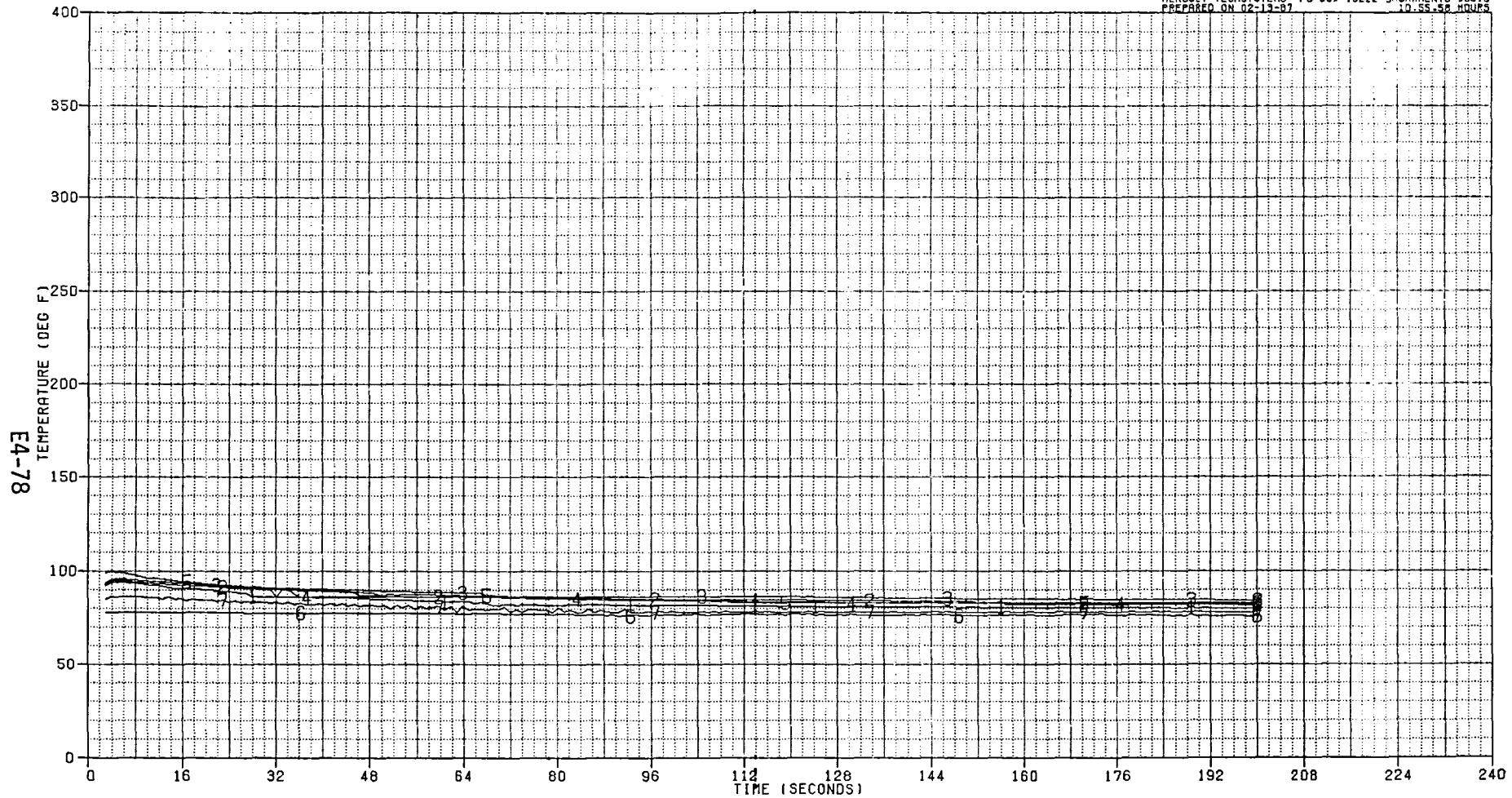




- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-131  
BARREL DATA  
TEST DATE 06-19-86 1000 HOURS



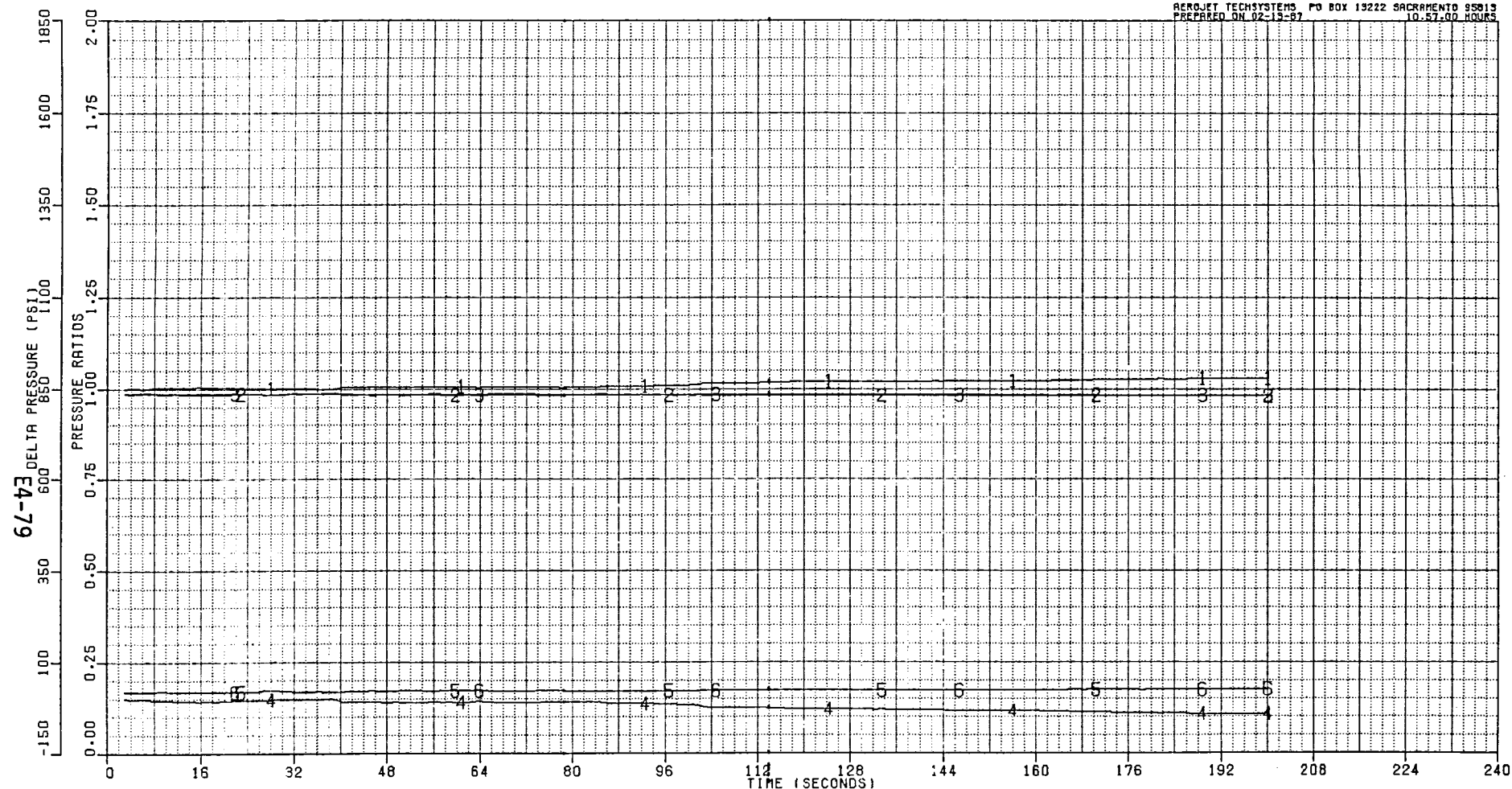


1 TWC-2 DEG F  
2 TWC-26 DEG F  
3 TWC-27 DEG F  
4 TWC-31 DEG F  
5 TWC-32 DEG F  
6 TWC-33 DEG F  
7 TC-7C DEG F

AEROJET  
TechSystems  
COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-131

TEST DATE 06-19-86 1000 HOURS

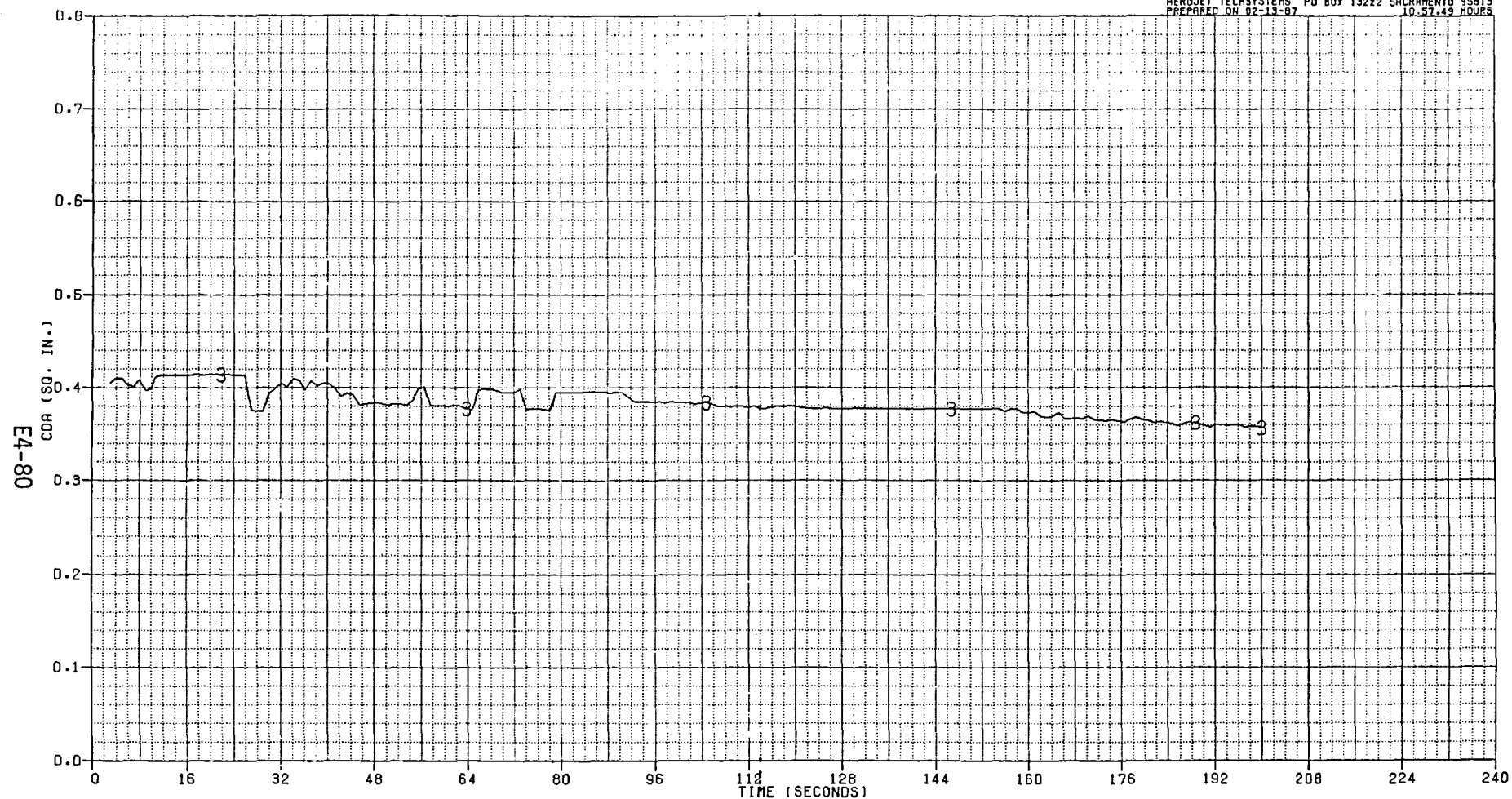


- 1 PRTR
  - 2 PRTS
  - 3 PRTS COPR
  - 4 DPTR
  - 5 DPTS-C
  - 6 DPTS
- PSI  
PSI  
PSI

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-131  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 06-19-86 1000 HOURS

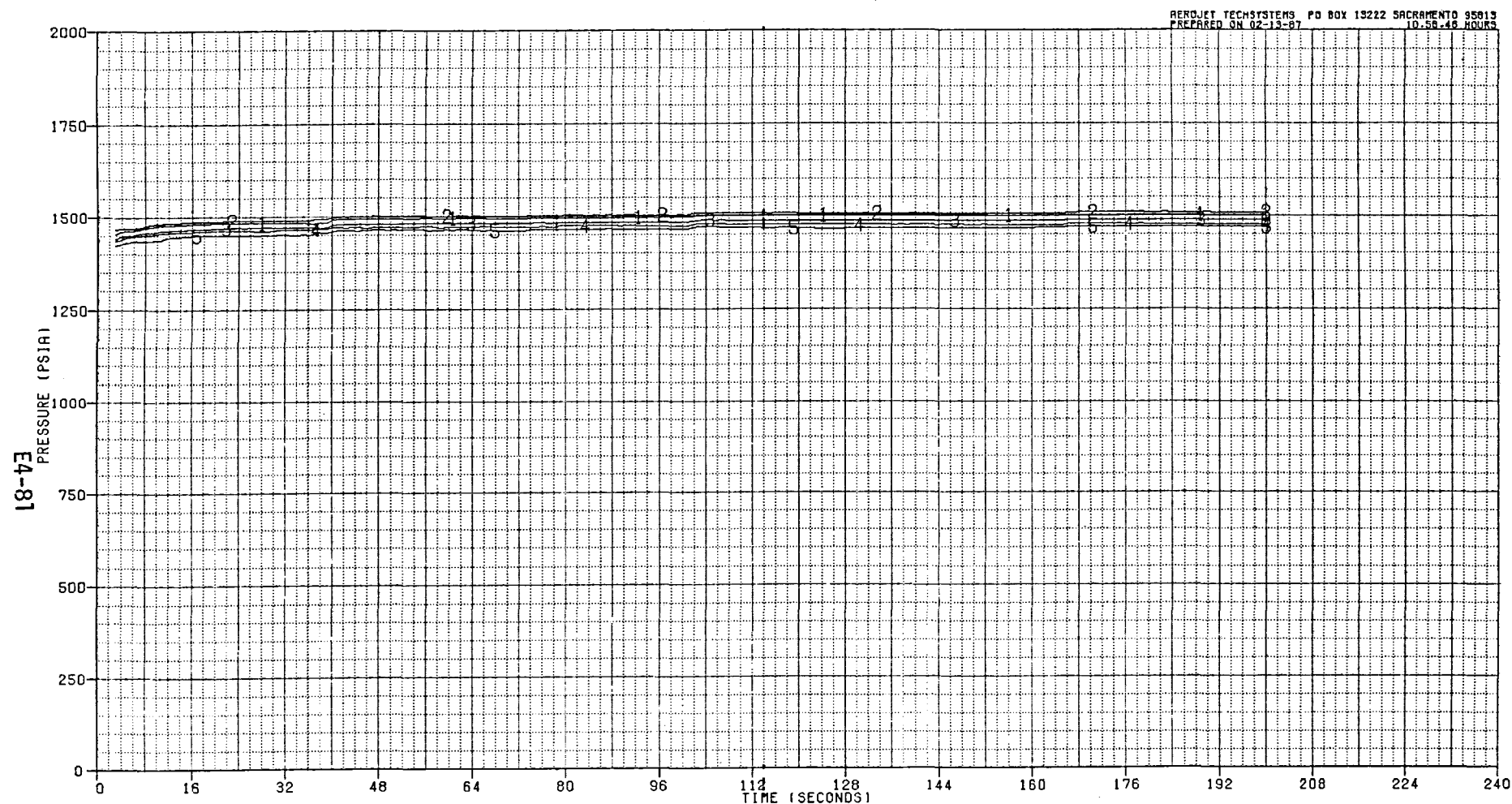
AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-13-87 10:57:43 AMU83



1 NA1 SQ.IN.  
2 NA2 SQ.IN.  
3 CDR

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-131  
NOZZLE AREA CHANGE  
TEST DATE 06-19-86 1000 HOURS

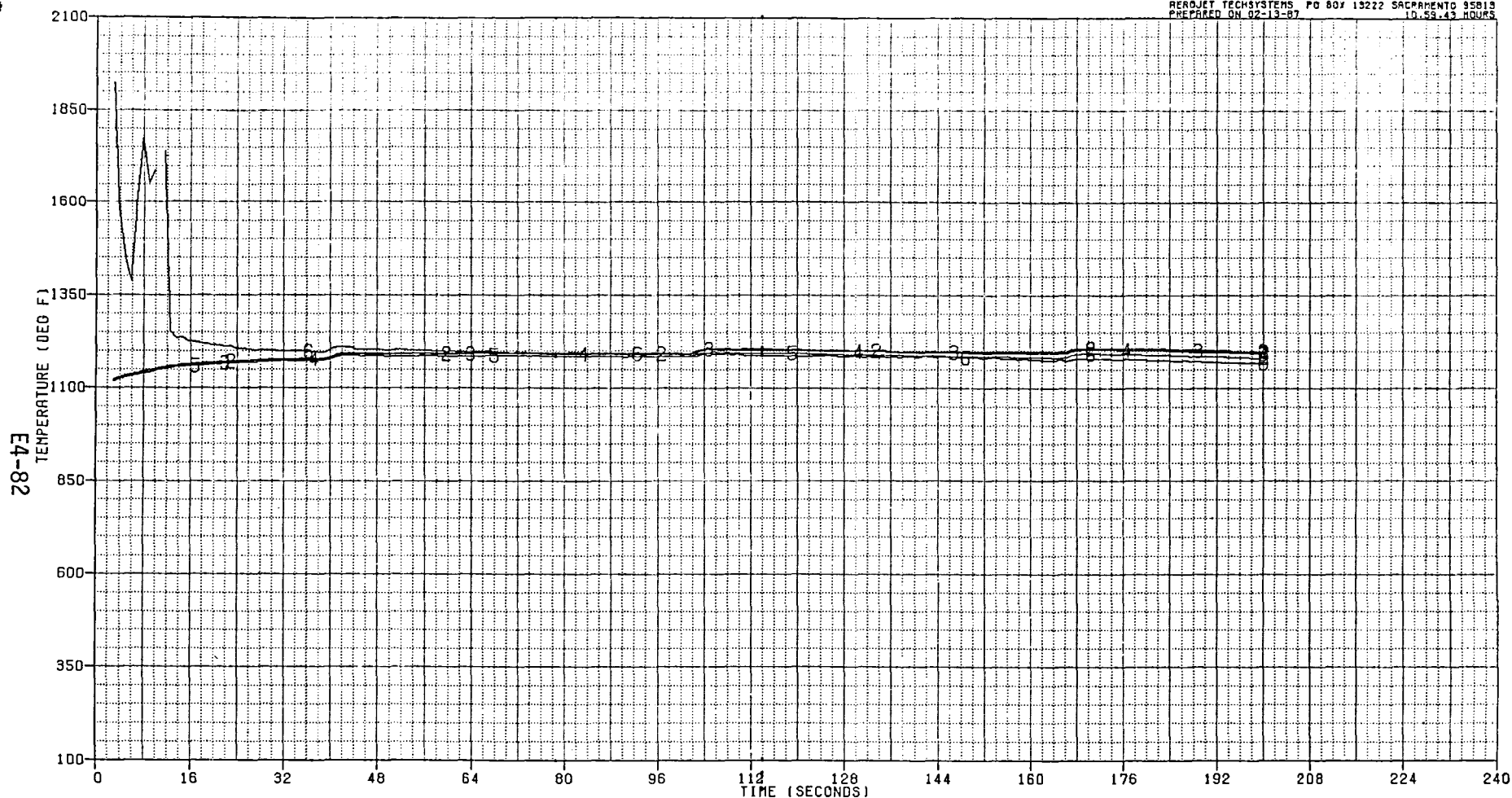
AEROJET  
@TechSystems  
COMPANY



1 PCTSU PSIA  
2 PCTSU-2 PSIA  
3 PCTSU-3 PSIA  
4 PCTSD PSIA  
5 PCTSD-2 PSIA

AEROJET  
**TechSystems**  
COMPANY

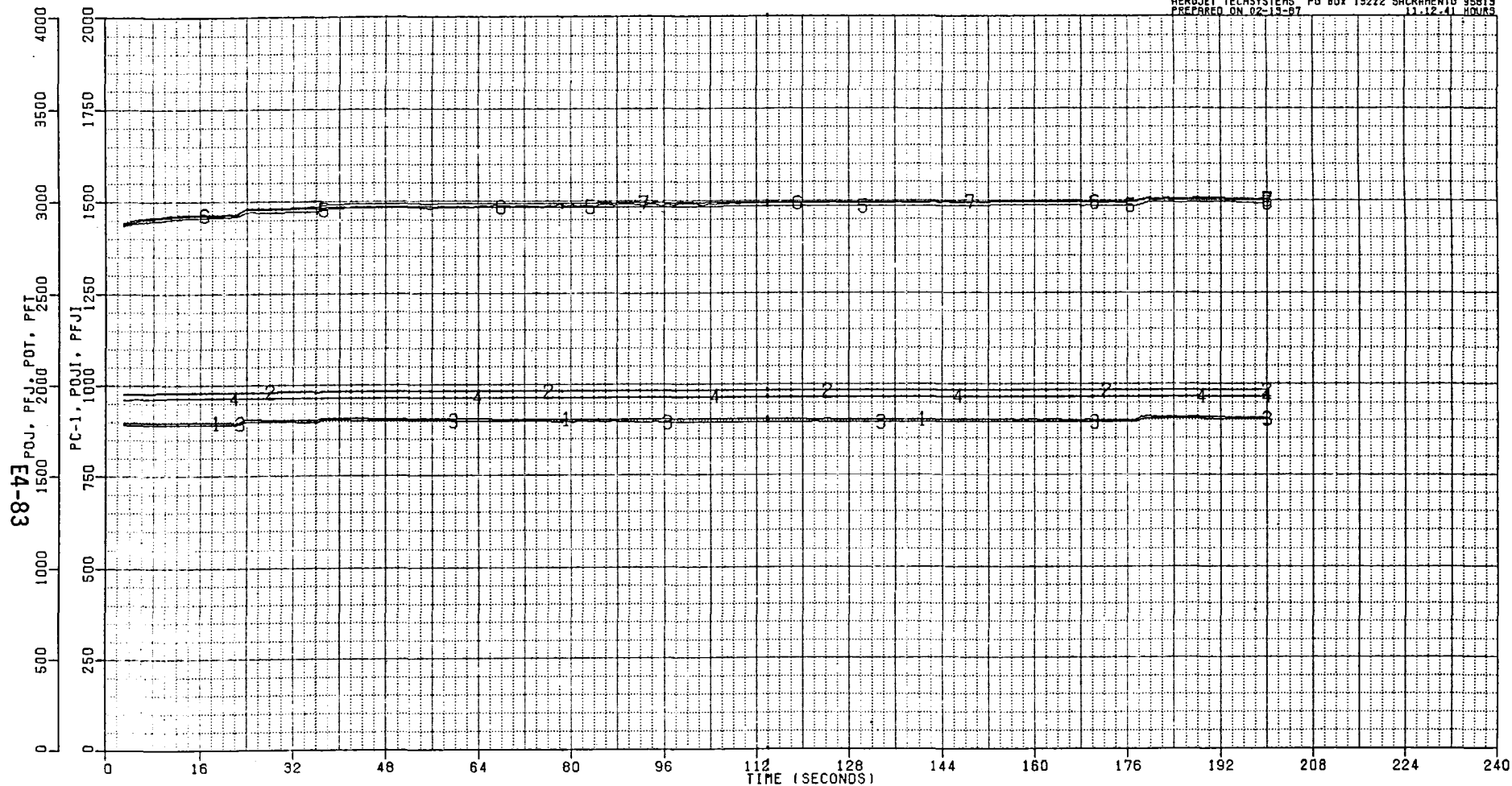
TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-131  
PRESSURE MEASUREMENTS  
TEST DATE 06-19-86 1000 HOURS



- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F

AEROJET  
**@TechSystems**  
 COMPANY

GAS TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-131  
 PRESSURE MEASUREMENTS  
 TEST DATE 06-19-86 1000 HOURS

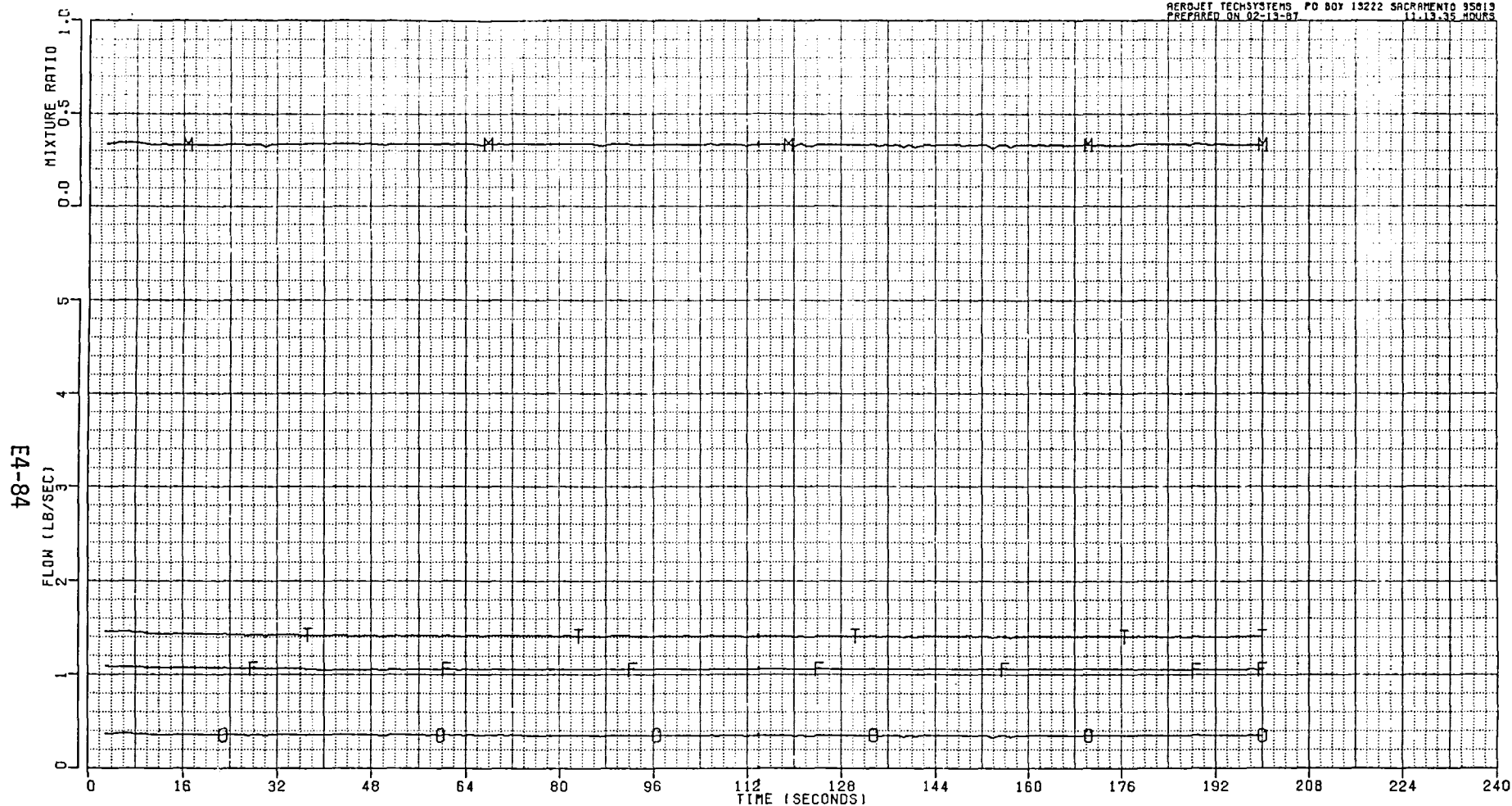


MEASURED PRESSURES VS TIME  
TEST NO. 2427-229-A6-132

TEST DATE 06-19-86 1014 HOURS

AEROJET  
@TechSystems  
COMPANY

AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-13-87 11:13:35 HOURS



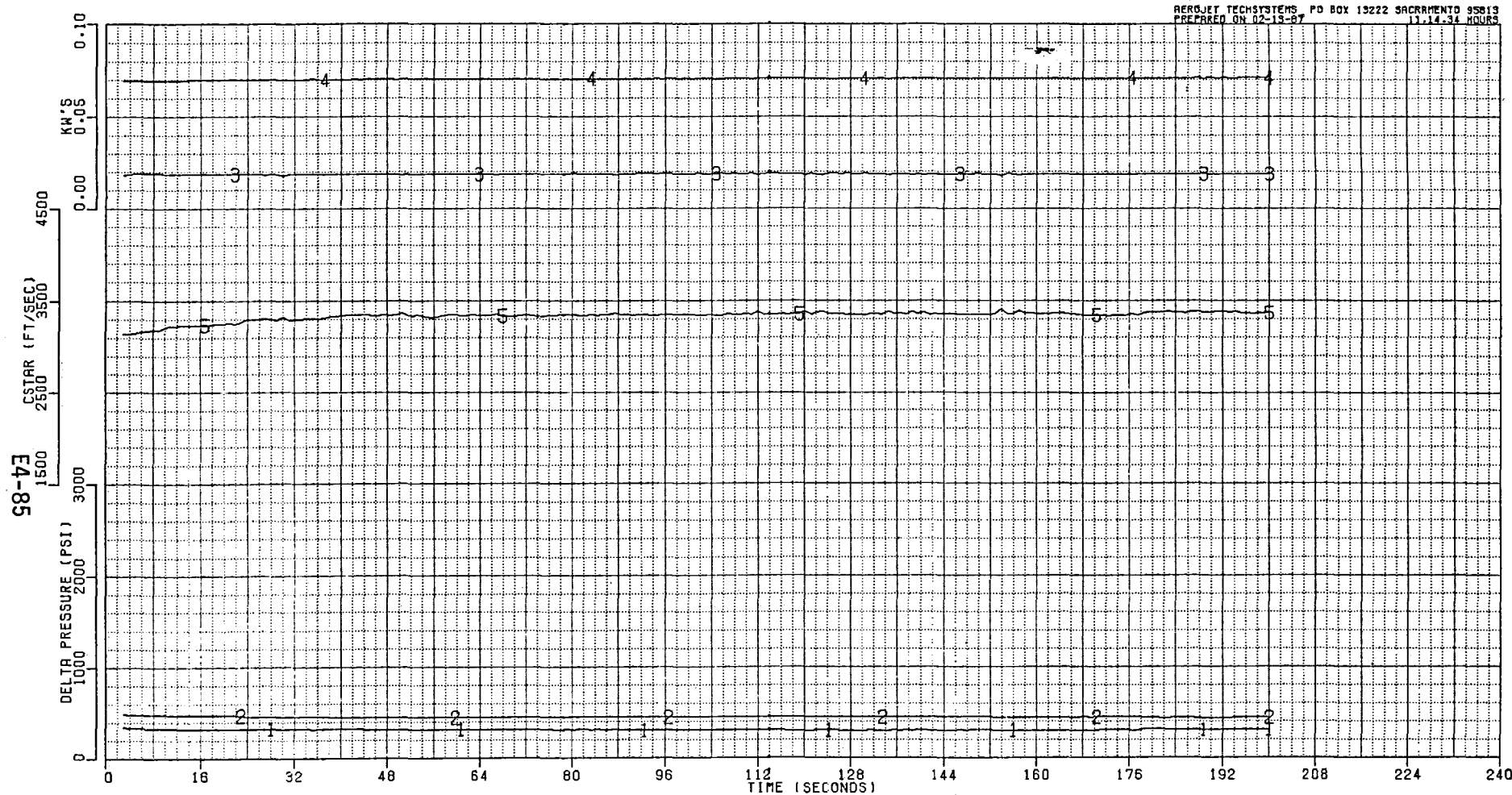
F WF LBS/SEC  
 C WOX LBS/SEC  
 T TOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-132

TEST DATE 06-19-86 1014 HOURS

AEROJET  
 @TechSystems  
 COMPANY



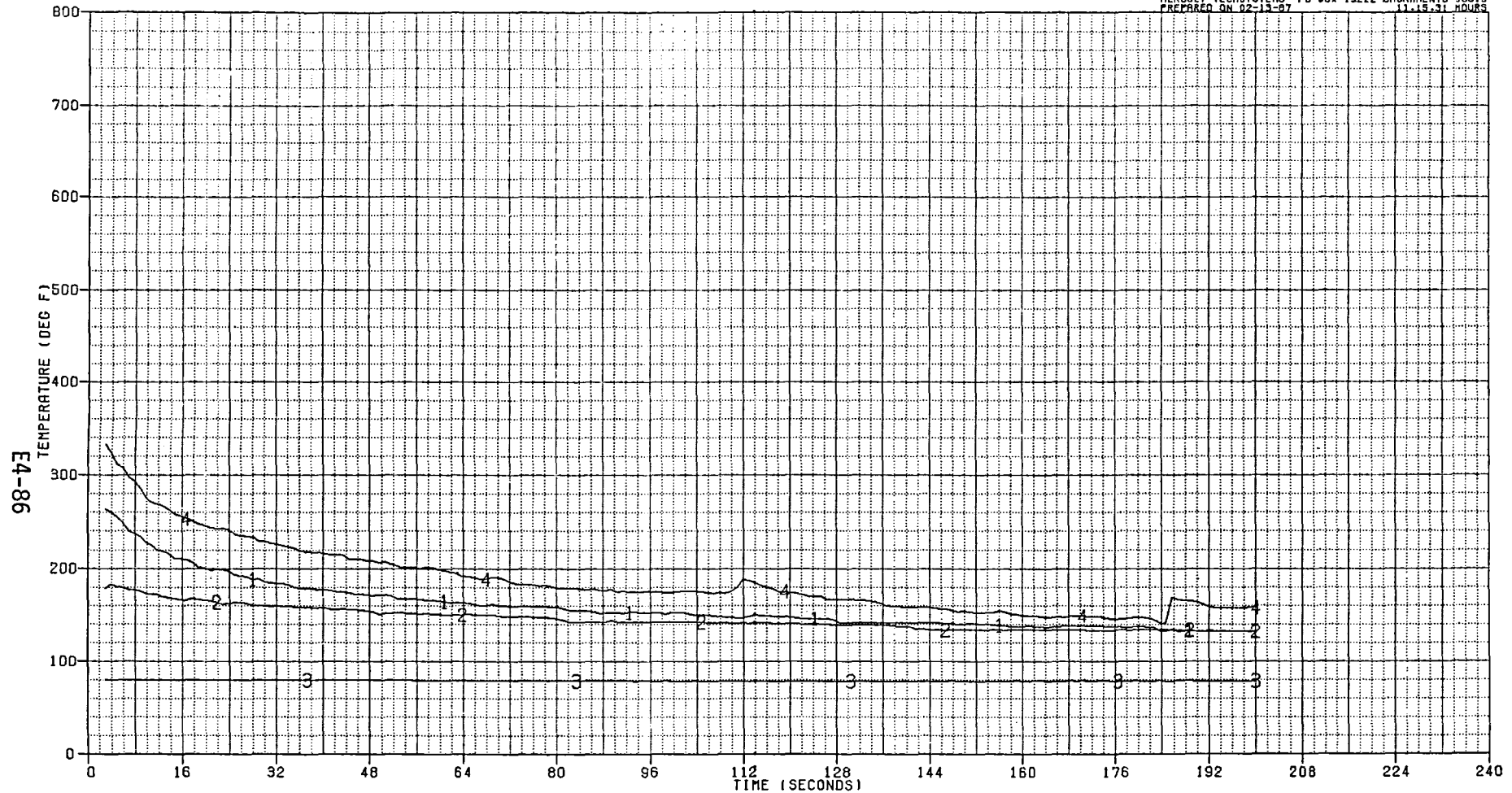


1 DPOJ PSI  
2 DPFJ PSI  
3 KWOJ  
4 KWFJ  
5 CSTRP3 FT/SEC  
6 CSTAR FT/SEC

AEROJET  
**TechSystems**  
COMPANY

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-229-A6-132

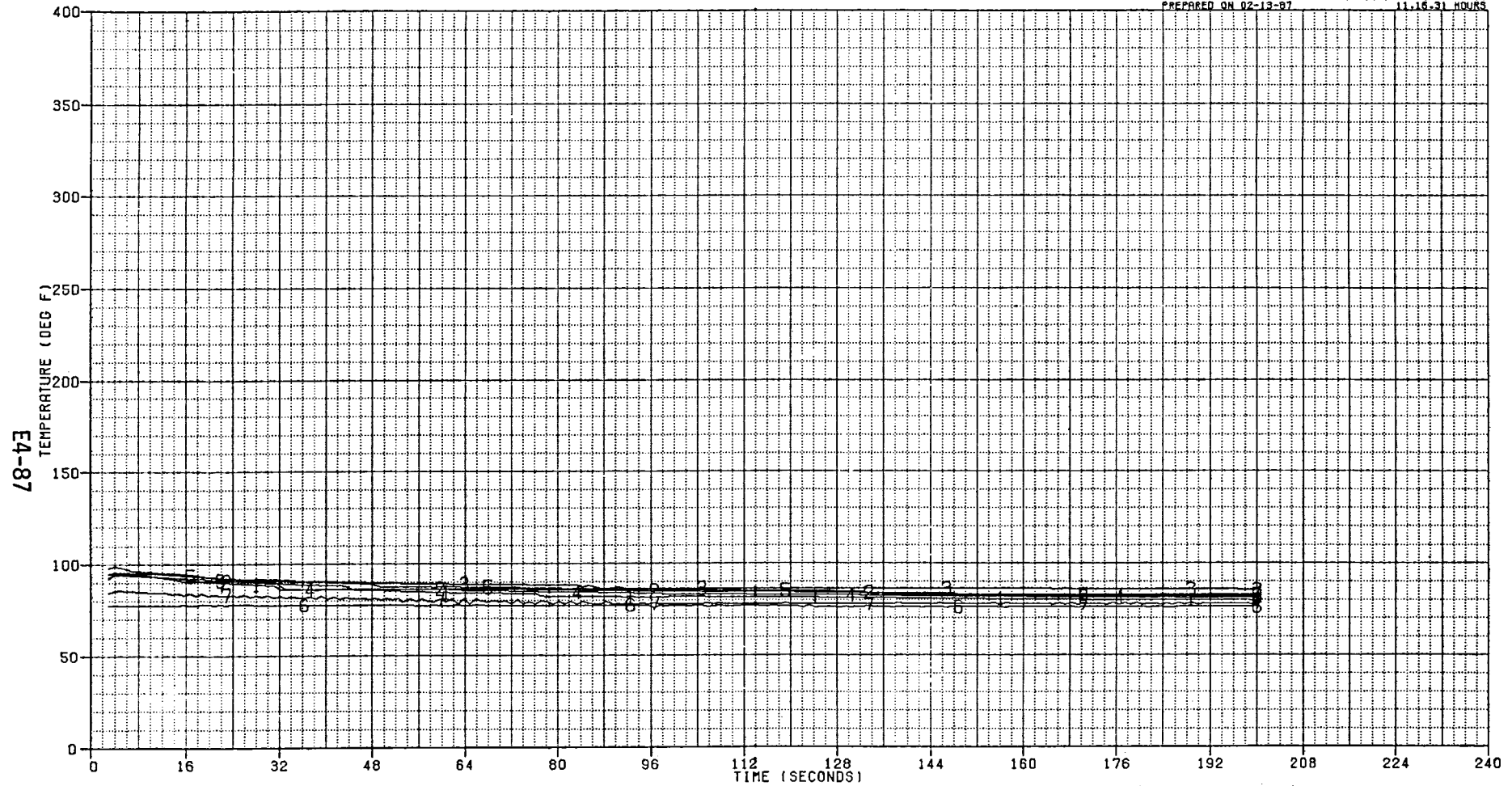
TEST DATE 06-19-86 1014 HOURS



1 TC-7 DEG F  
2 TC-10 DEG F  
3 TC-11 DEG F  
4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-132  
BARREL DATA  
TEST DATE 06-19-86 1014 HOURS

AEROJET  
**TechSystems**  
COMPANY

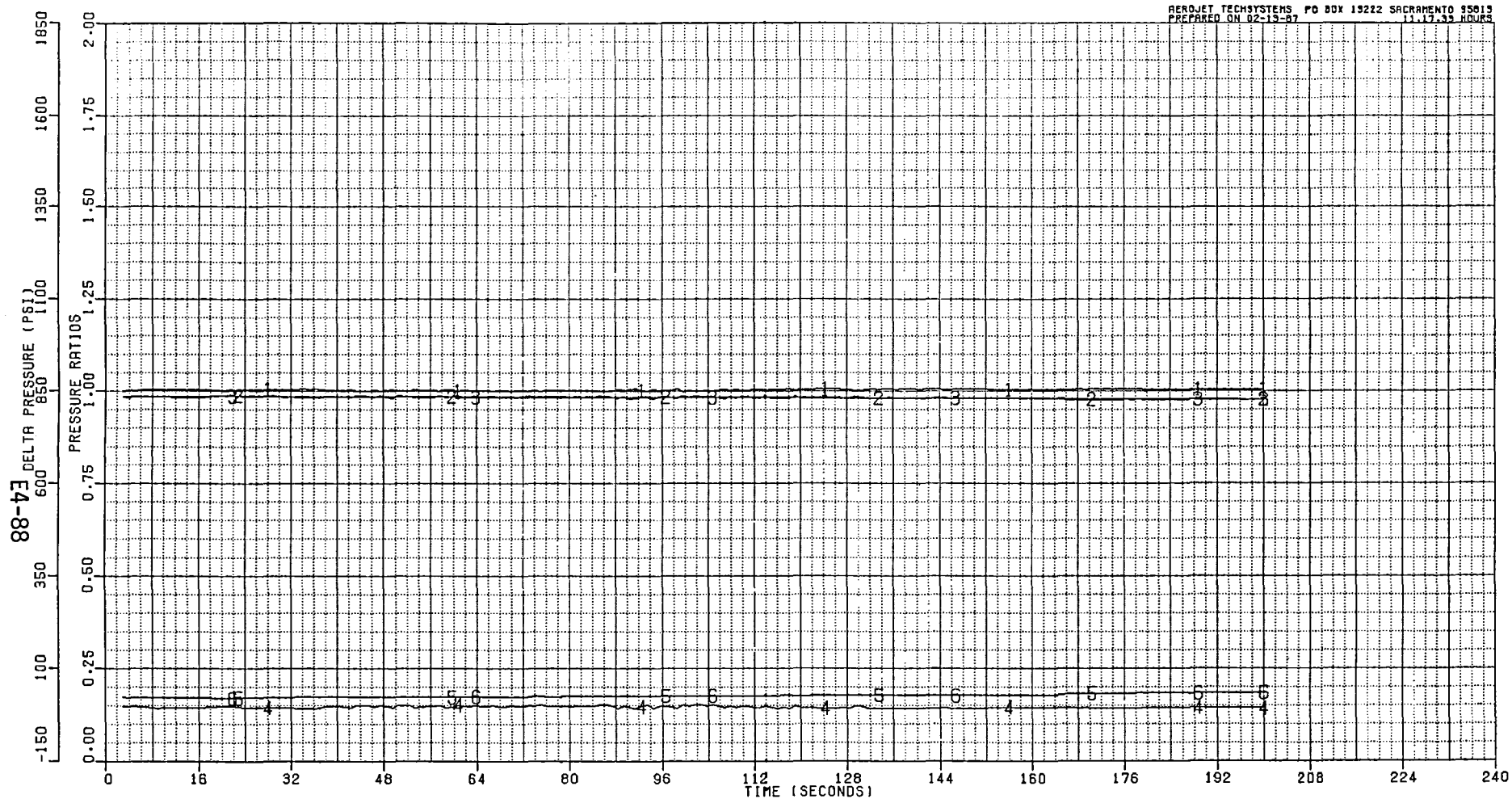


1 TWC-2 DEG F  
2 TWC-26 DEG F  
3 TWC-27 DEG F  
4 TWC-31 DEG F  
5 TWC-32 DEG F  
6 TWC-33 DEG F  
7 TC-7C DEG F

AEROJET  
TechSystems  
COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-132

TEST DATE 06-19-86 1014 HOURS

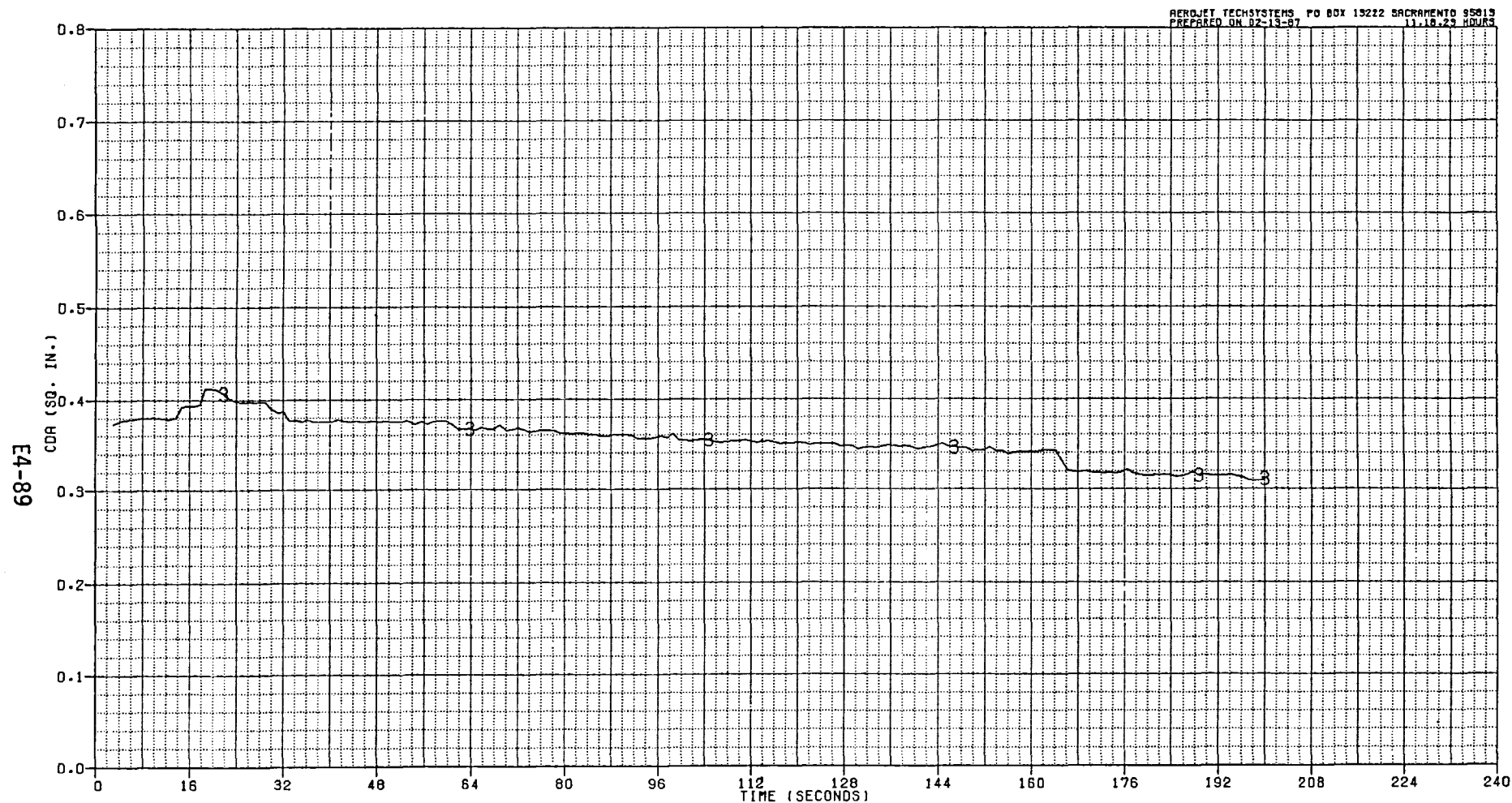


- 1 PRTS
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

AEROJET  
TechSystems  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-132  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 06-19-86 1014 HOURS



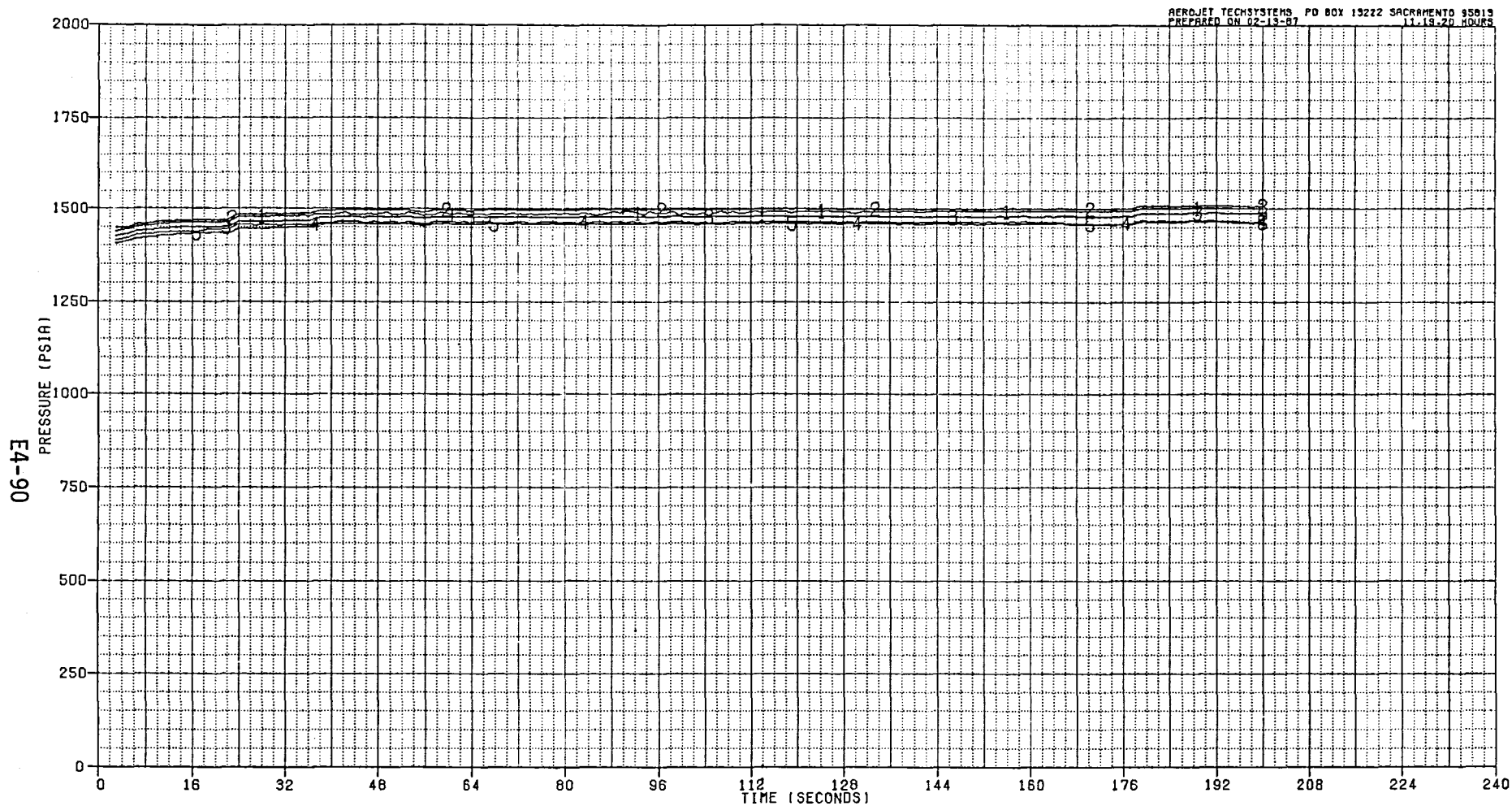
E4-89

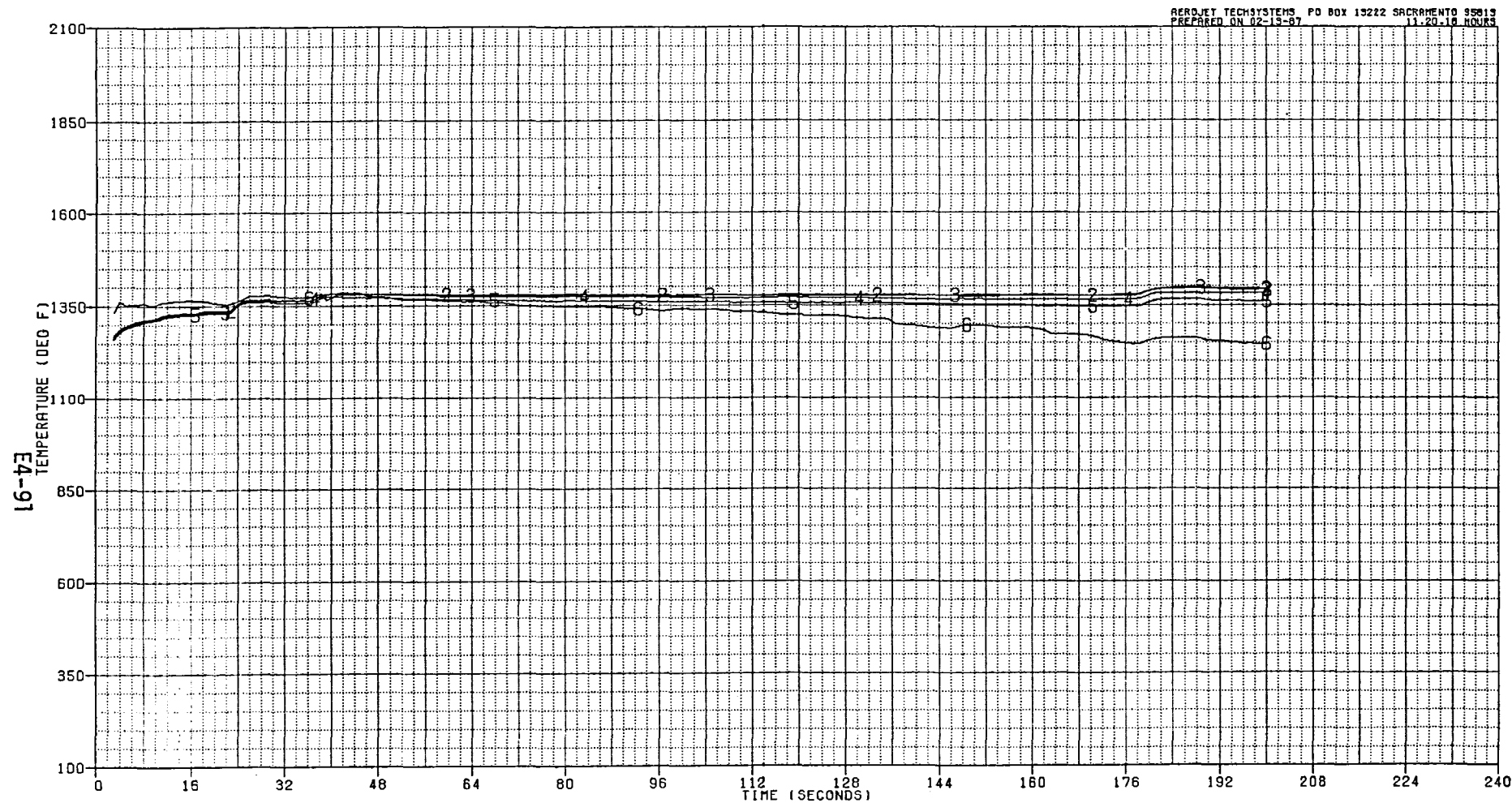
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-13-97 11:16:23 HOURS

- 1 NR1 SQ. IN.
- 2 NR2 SQ. IN.
- 3 CDA

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-132  
 NOZZLE AREA CHANGE  
 TEST DATE 06-19-86 1014 HOURS





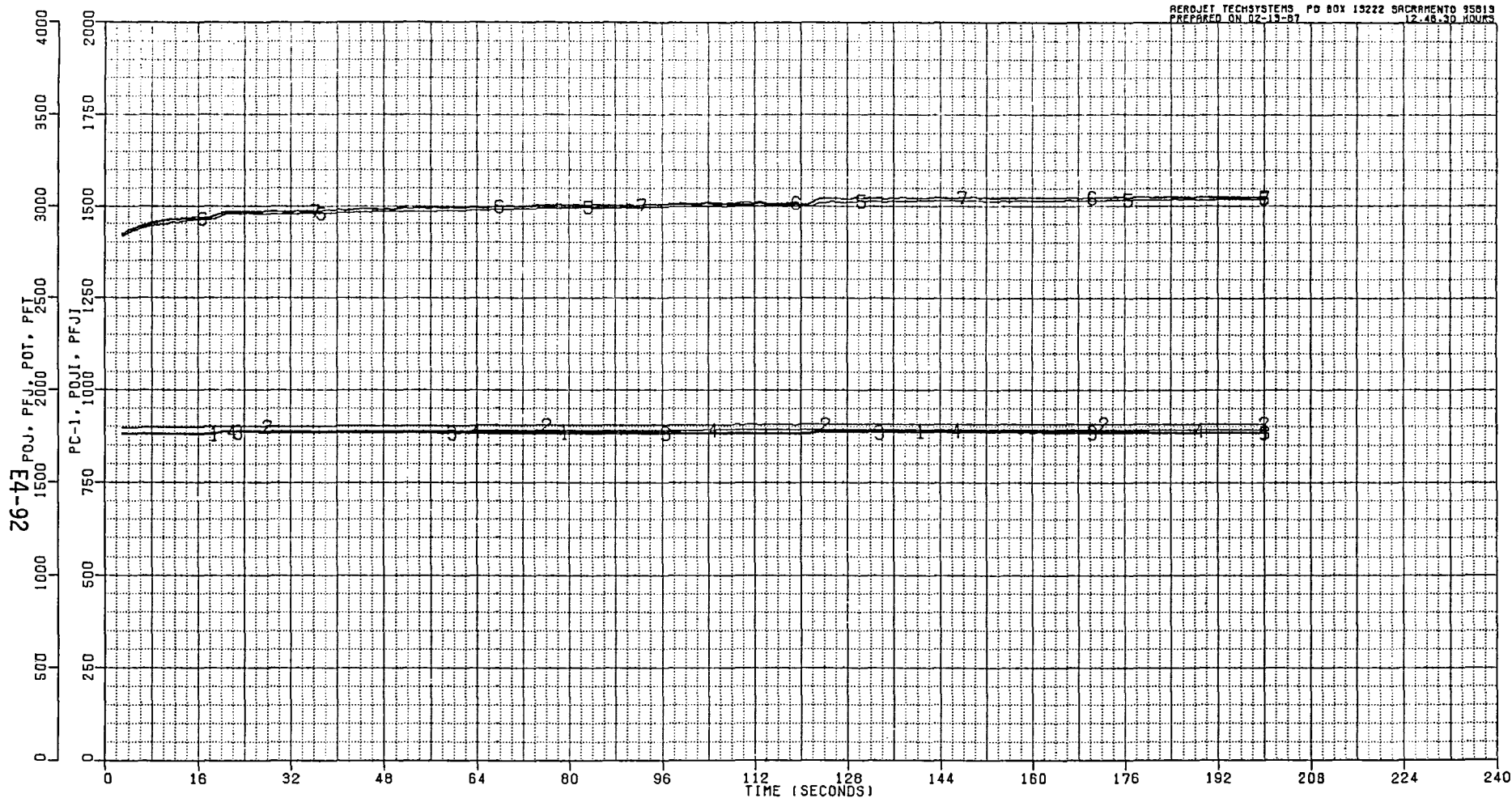


1 TCR-1 DEG F  
2 TCR-2 DEG F  
3 TCR-3 DEG F  
4 TCR-4 DEG F  
5 TCR-5 DEG F  
6 TCR-6 DEG F

AEROJET  
**TechSystems**  
COMPANY

GAS TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-132  
PRESSURE MEASUREMENTS  
TEST DATE 06-19-86 1014 HOURS





AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-19-87 12:48:30 HOURS

- 1 POT PSIA
- 2 PFT PSIA
- 3 POJ PSIA
- 4 PFJ PSIA
- 5 PC-1 PSIA
- 6 POJI PSIA
- 7 PFJI PSIA

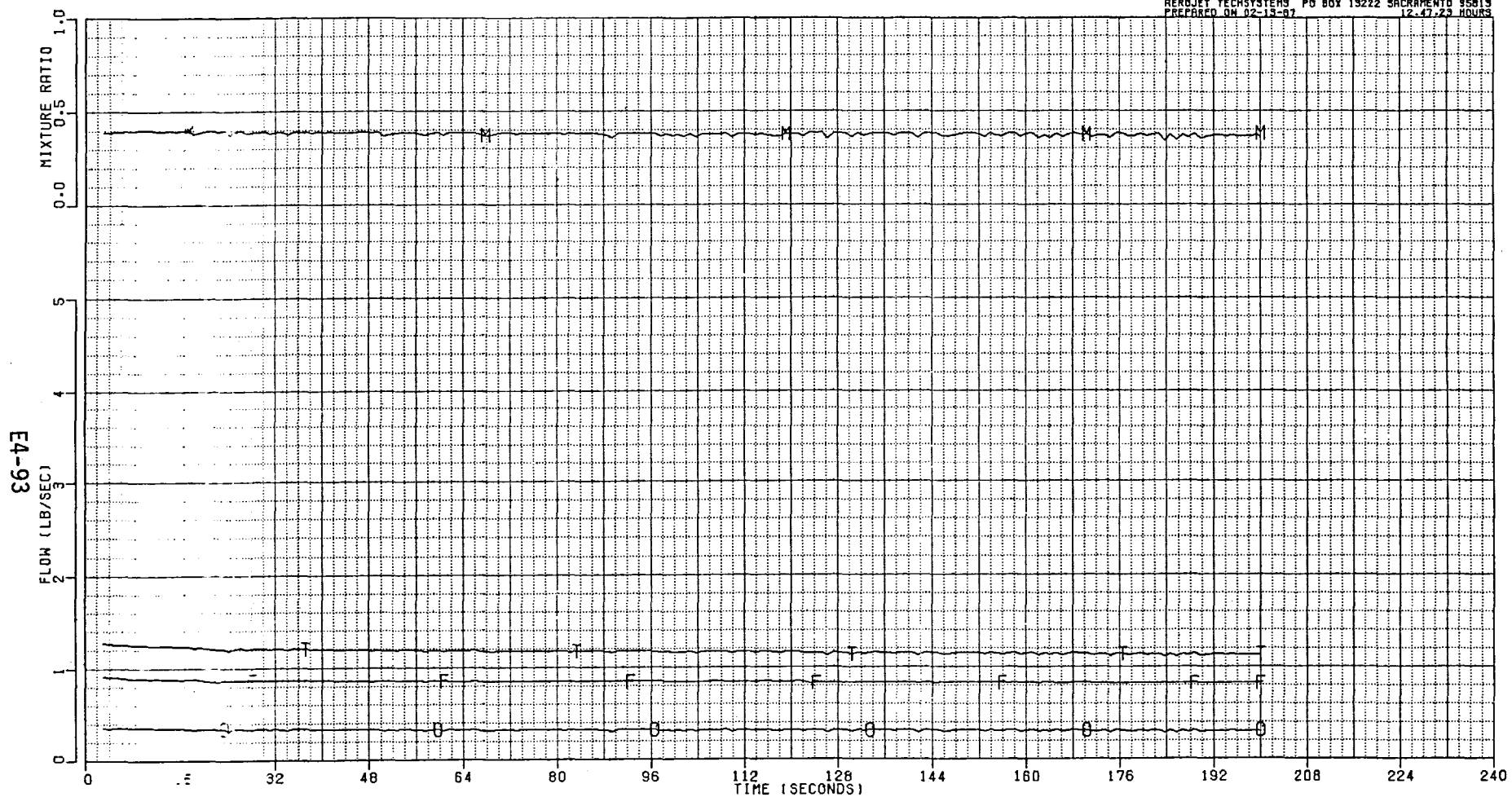
AEROJET  
TechSystems  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-229-A6-133

TEST DATE 06-19-86 1106 HOURS



AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-15-87 12:47:23 HOURS



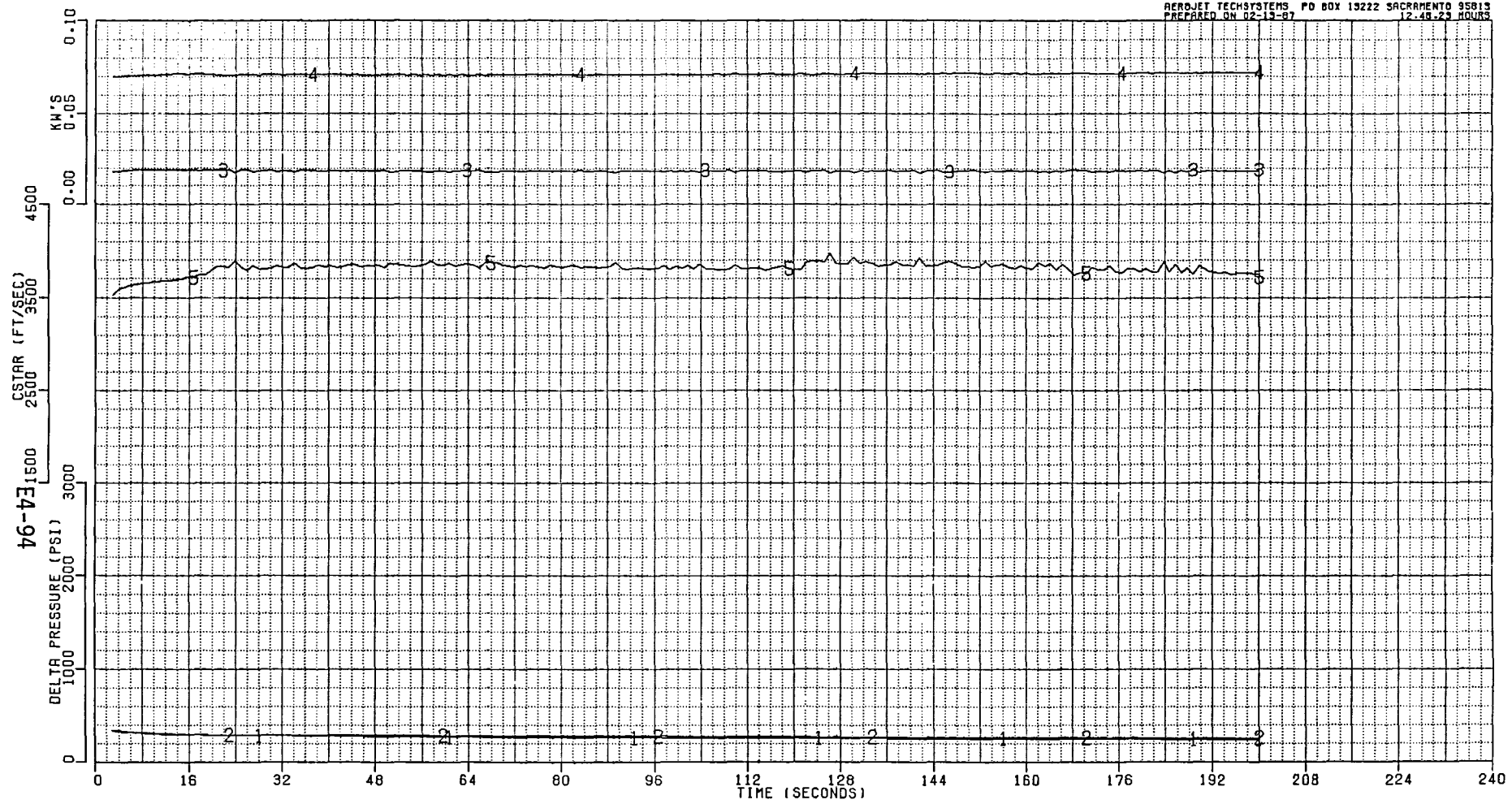
F WF  
O WOX  
T WTOT  
M MR

INJECTOR FLOW VS TIME  
TEST NO. 2427-229-A6-133

TEST DATE 06-19-86 1106 HOURS



AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-13-87 12:49:23 HOURS

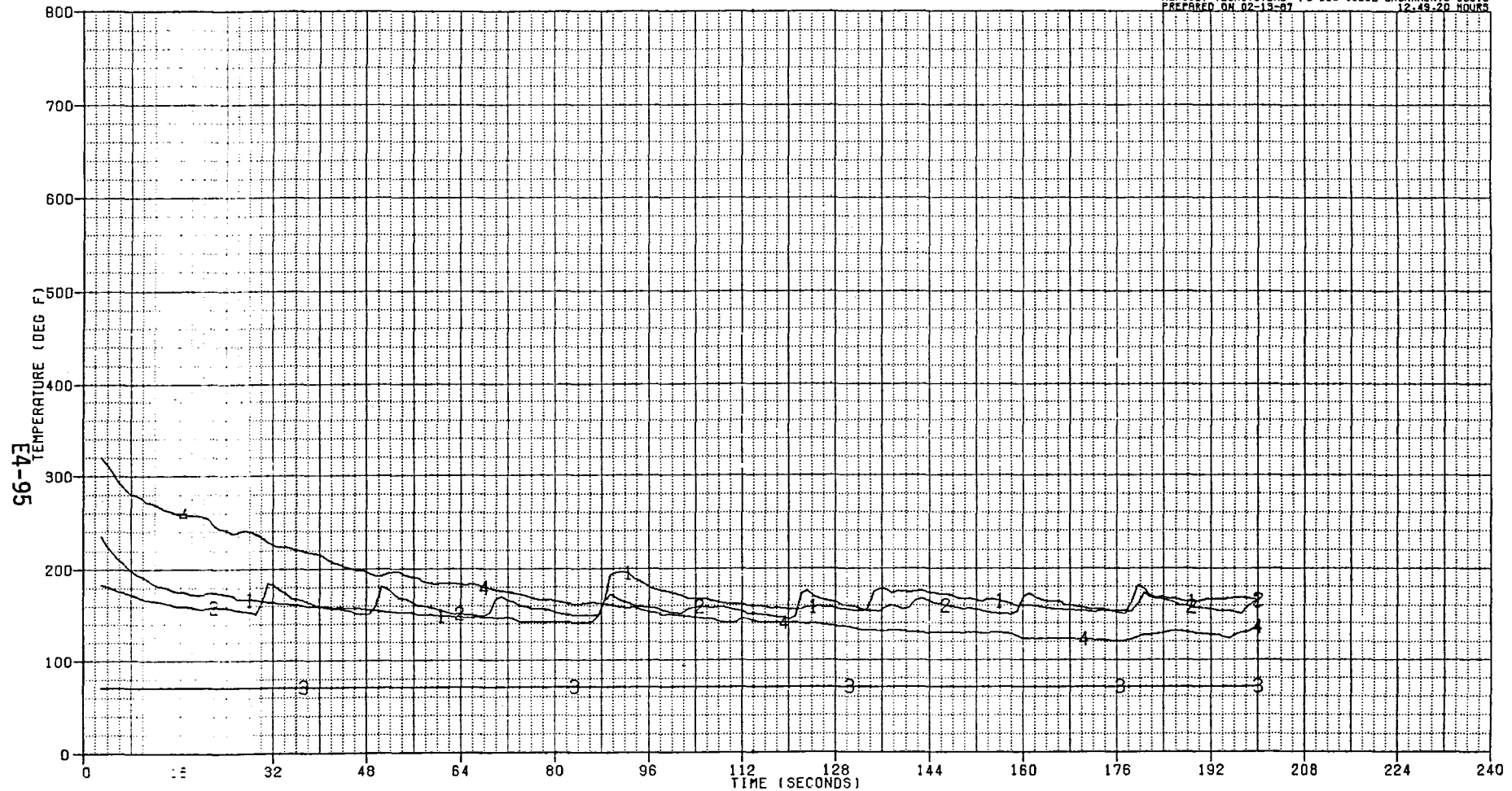


- 1 DPQJ      PSI
- 2 DPFJ      PSI
- 3 KWQJ
- 4 KWFJ
- 5 CSTRPB      FT/SEC
- 6 CSTAR      FT/SEC



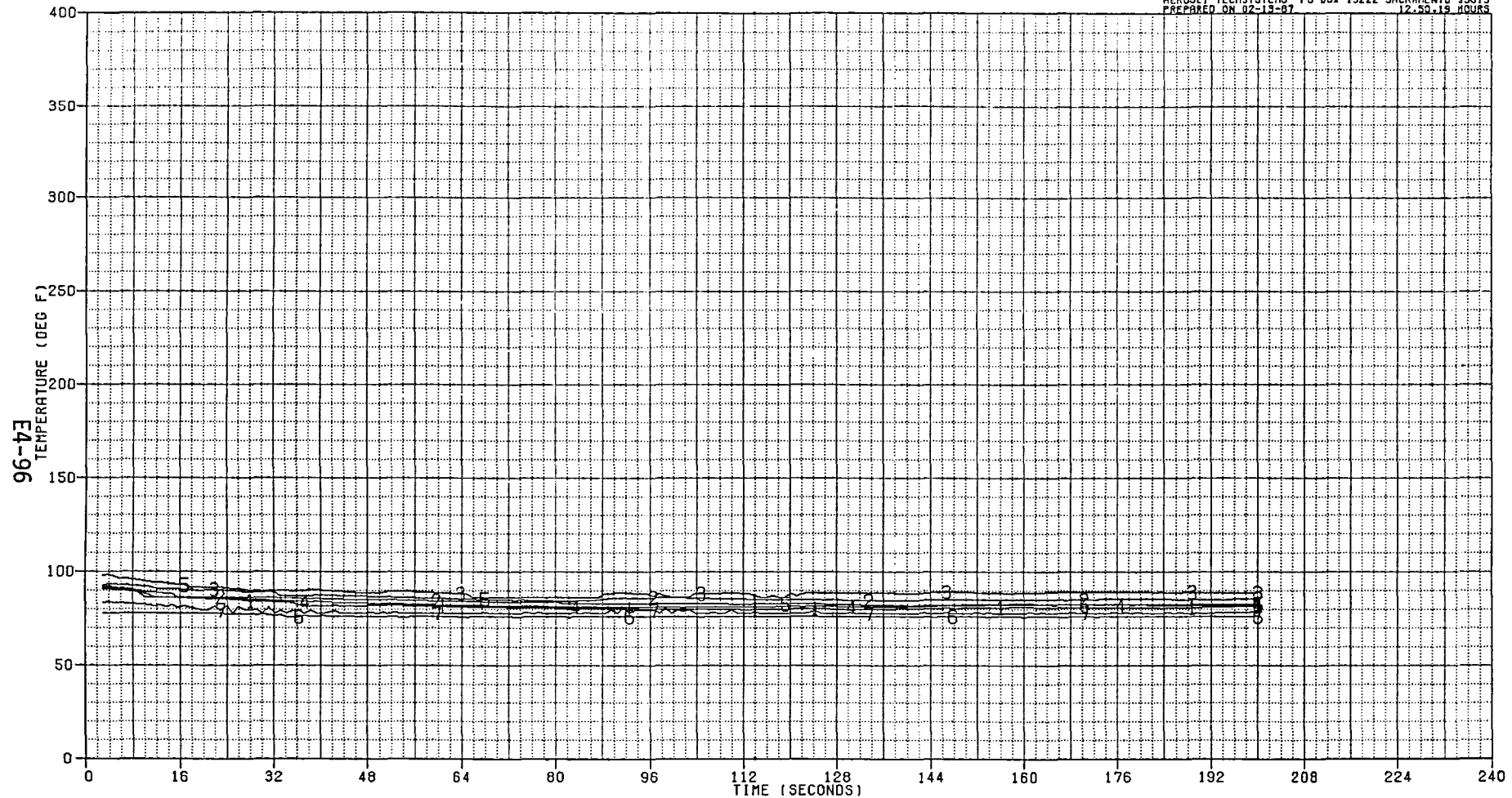
INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-229-A6-133

TEST DATE 06-19-86 1106 HOURS



1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-133  
 BARREL DATA  
 TEST DATE 06-19-86 1106 HOURS

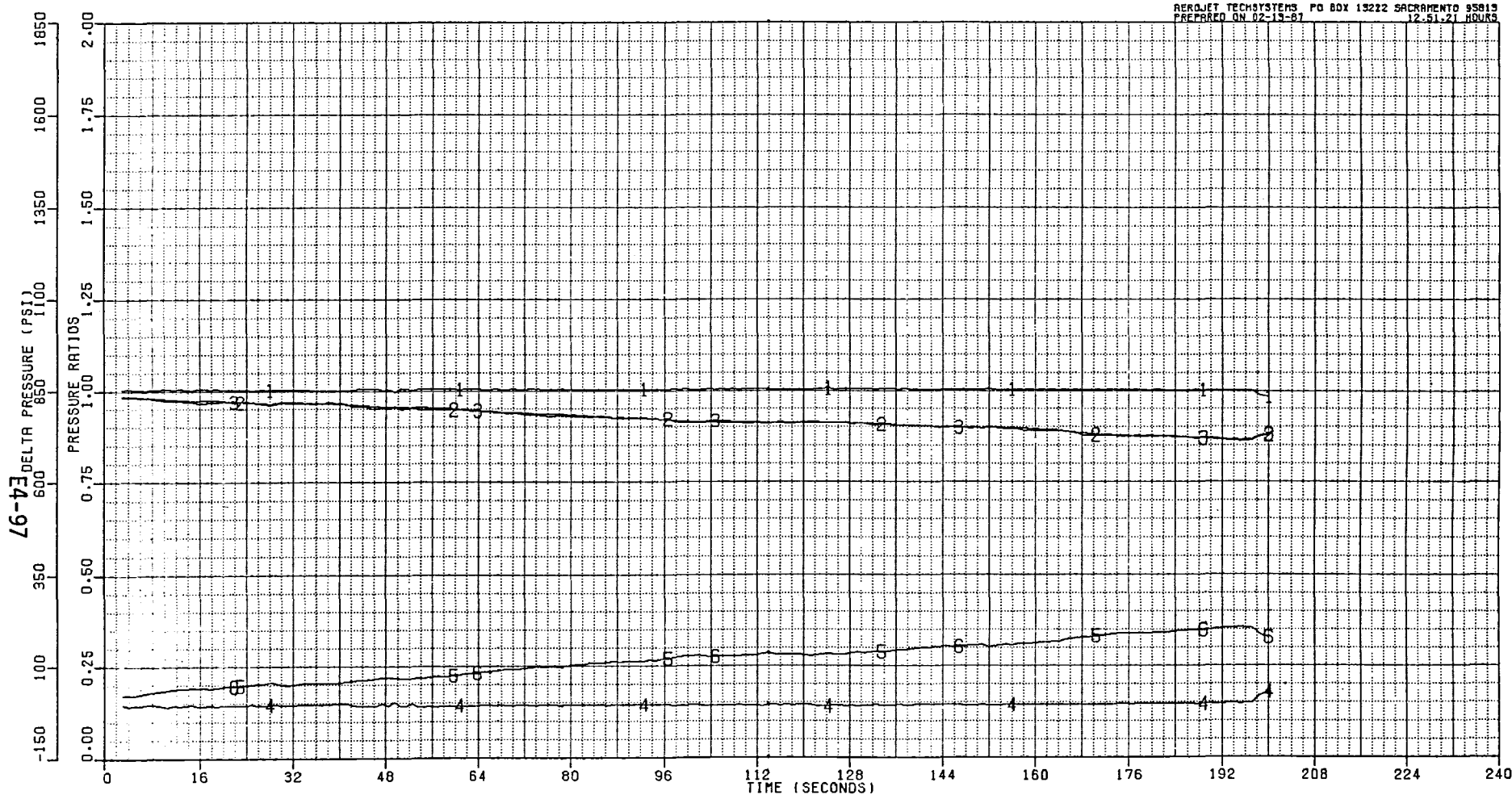


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F



COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-133

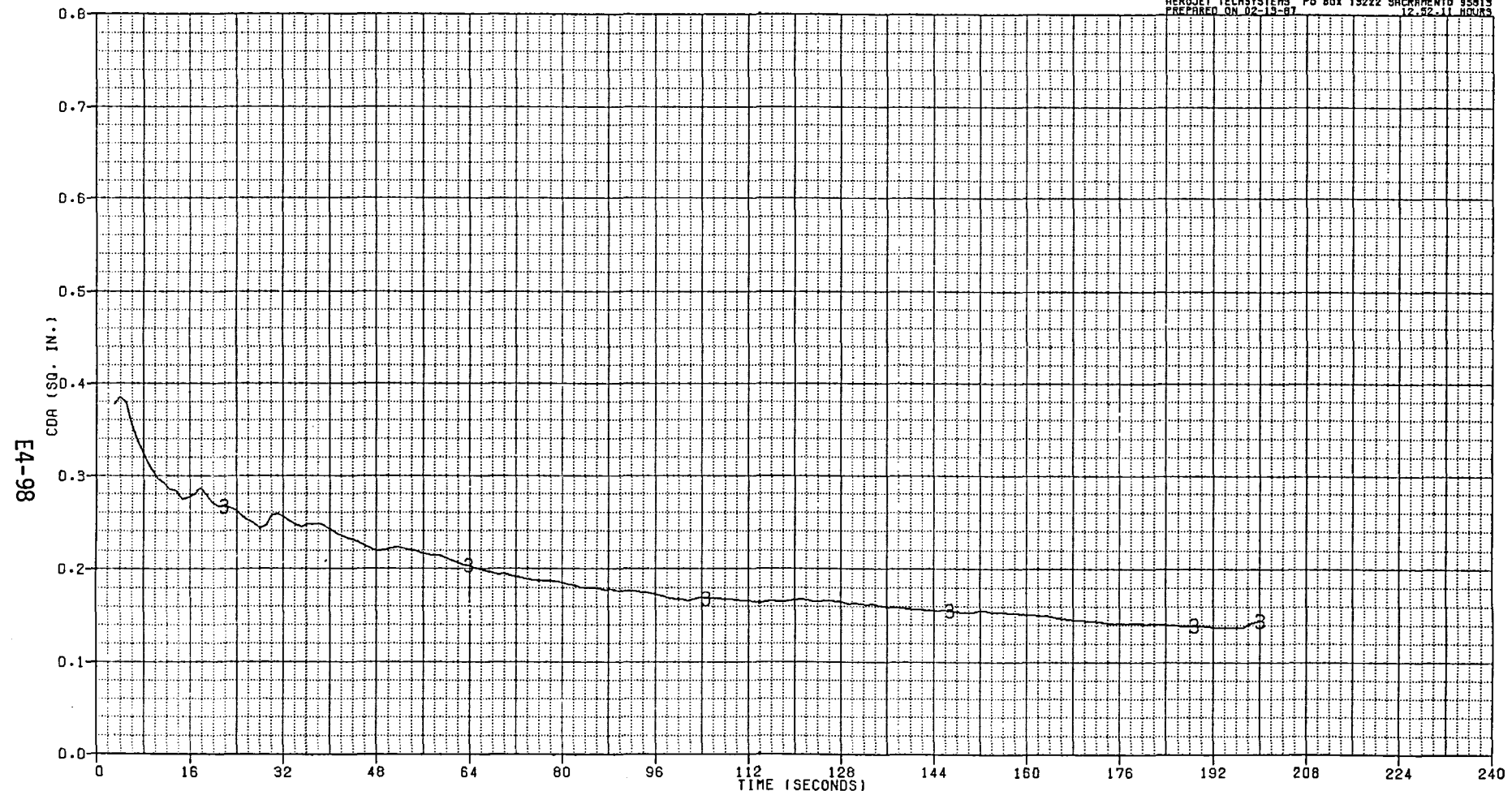
TEST DATE 06-19-86 1106 HOURS



AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-13-87 12:51:21 HOURS

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-133  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 06-19-86 1106 HOURS

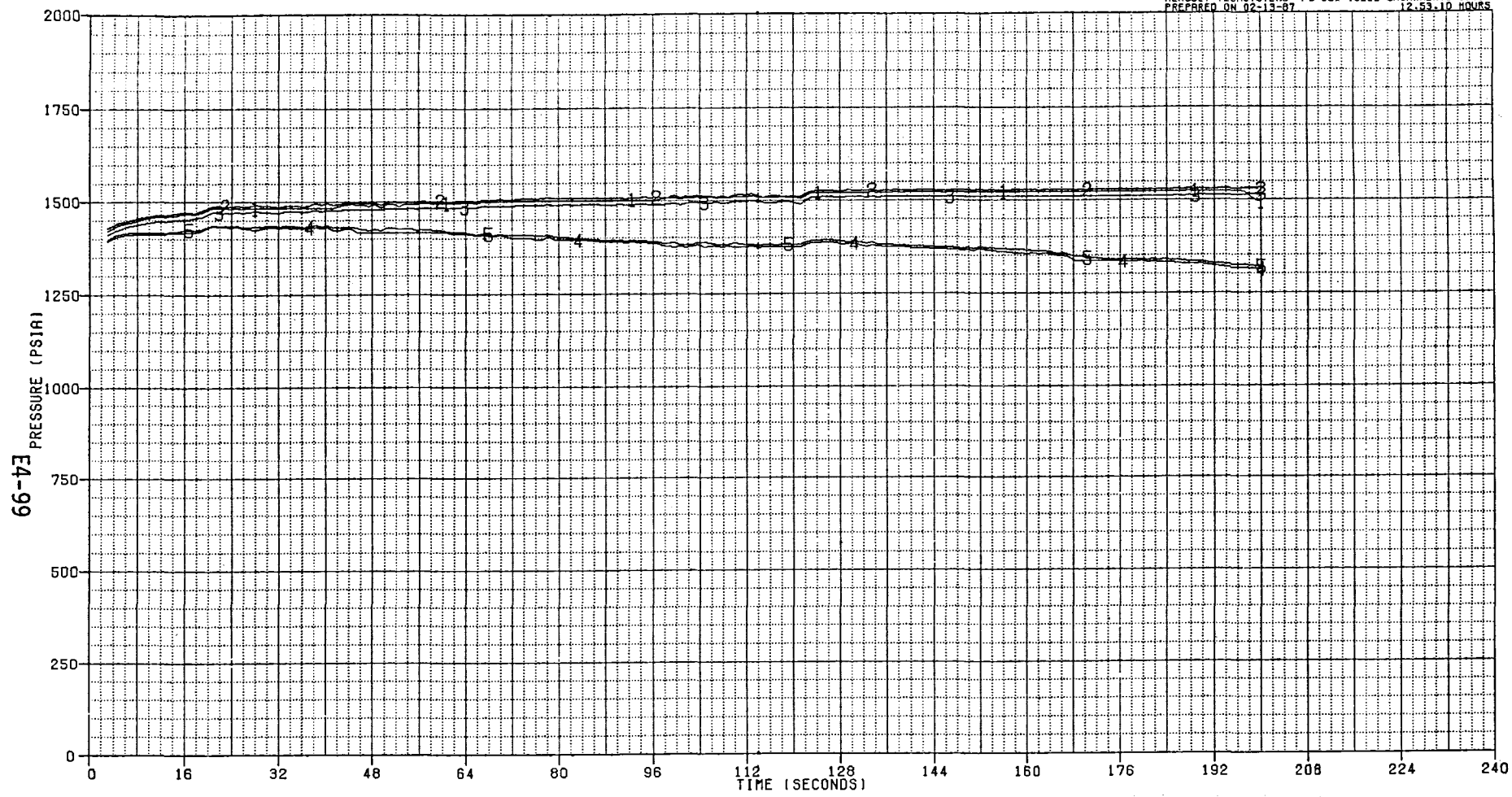
AEROJET  
TechSystems  
COMPANY



1 NA1 SQ.IN.  
2 NA2 SQ.IN.  
3 CDR

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-133  
NOZZLE AREA CHANGE  
TEST DATE 06-19-86 1106 HOURS



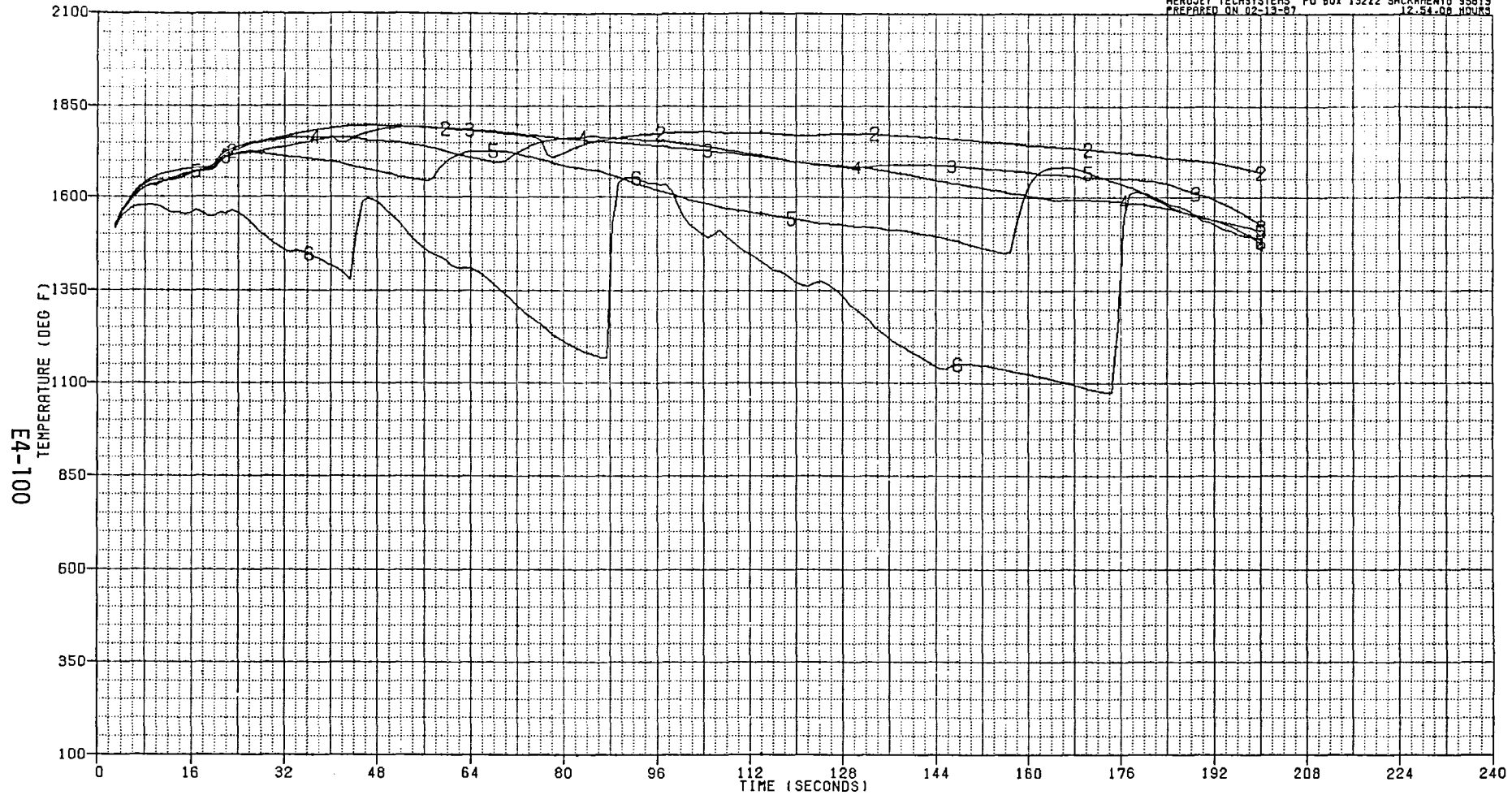


- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-133  
PRESSURE MEASUREMENTS  
TEST DATE 06-19-86 1106 HOURS







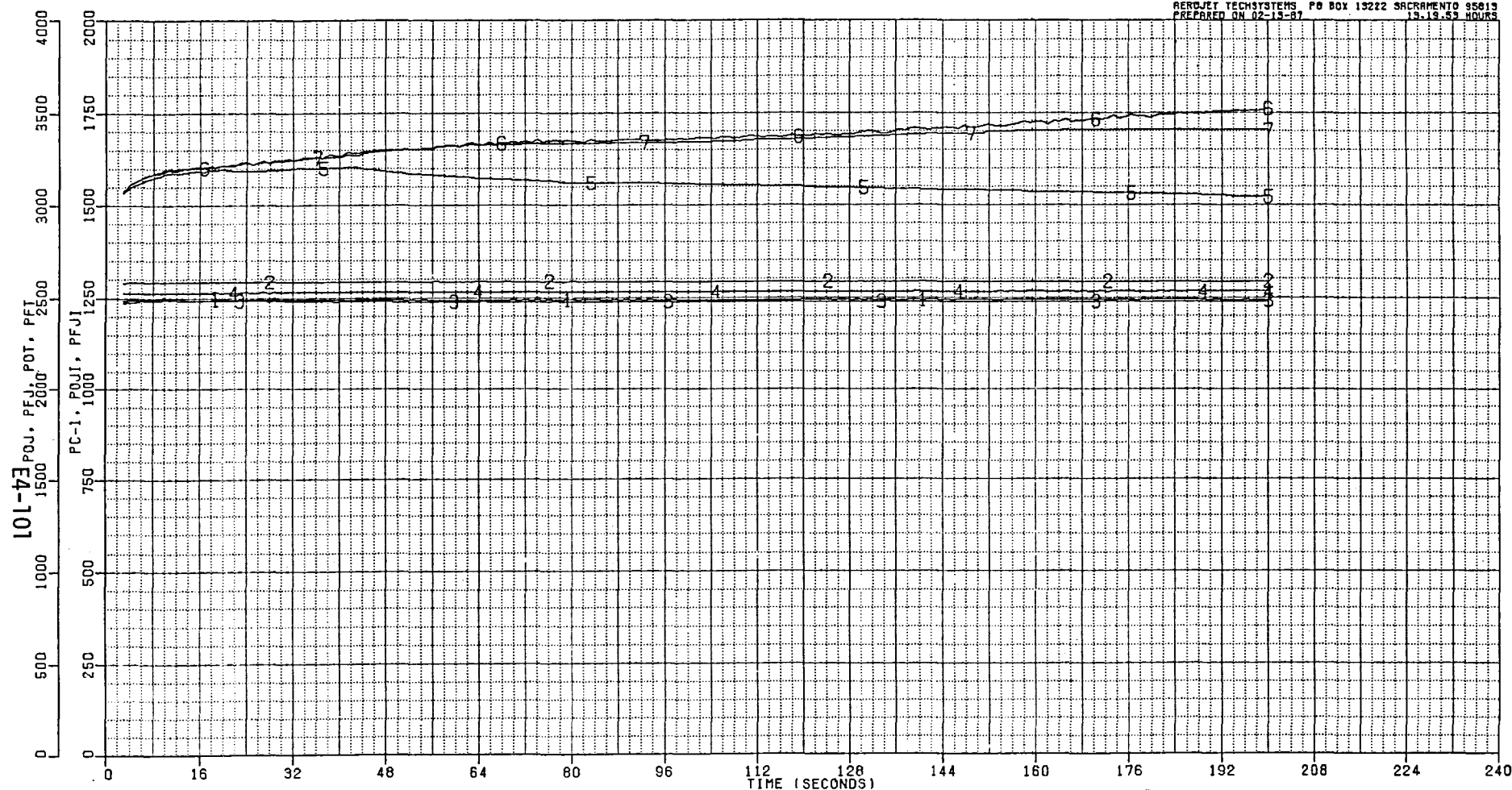
E4-100

- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-133  
 PRESSURE MEASUREMENTS  
 TEST DATE 06-19-86 1106 HOURS



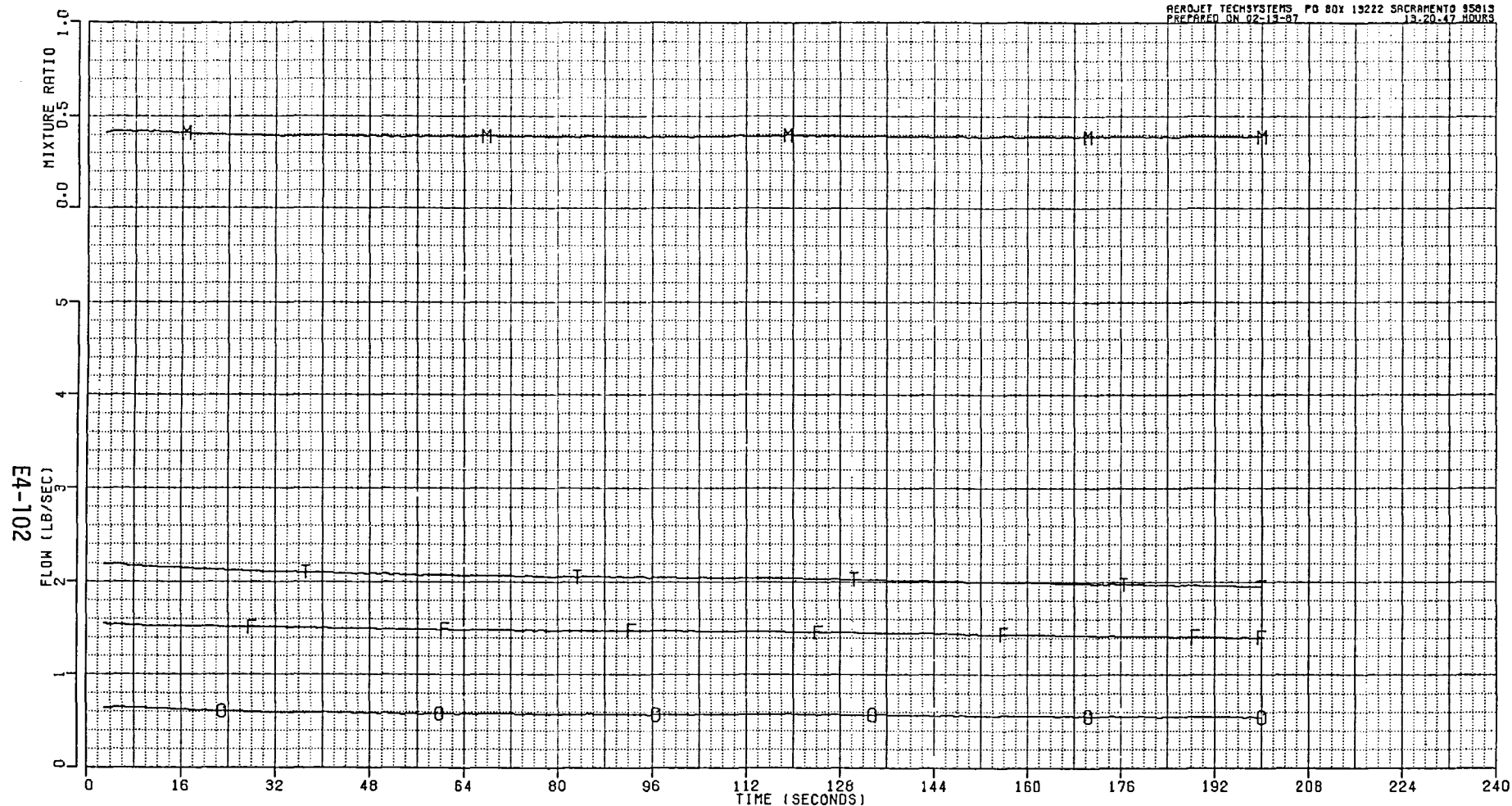


- |        |      |
|--------|------|
| 1 POT  | PSIA |
| 2 PFT  | PSIA |
| 3 POJ  | PSIA |
| 4 PFJ  | PSIA |
| 5 PC-1 | PSIA |
| 6 PQJI | PSIA |
| 7 PFJI | PSIA |

AEROJET  
  
 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-229-A6-134

TEST DATE 06-19-86 1329 HOURS

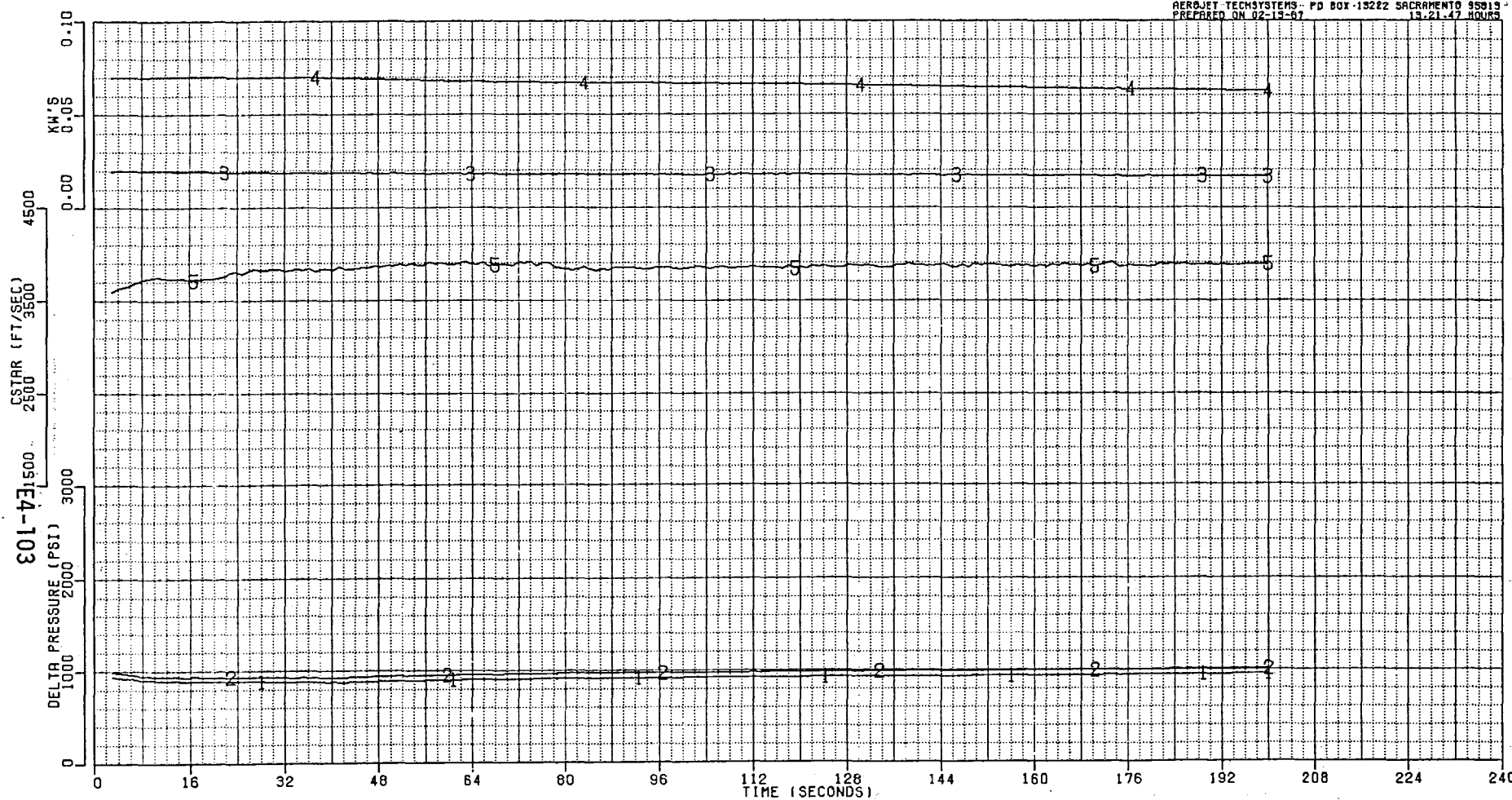


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-134

TEST DATE 06-19-86 1329 HOURS

AEROJET  
**TechSystems**  
 COMPANY

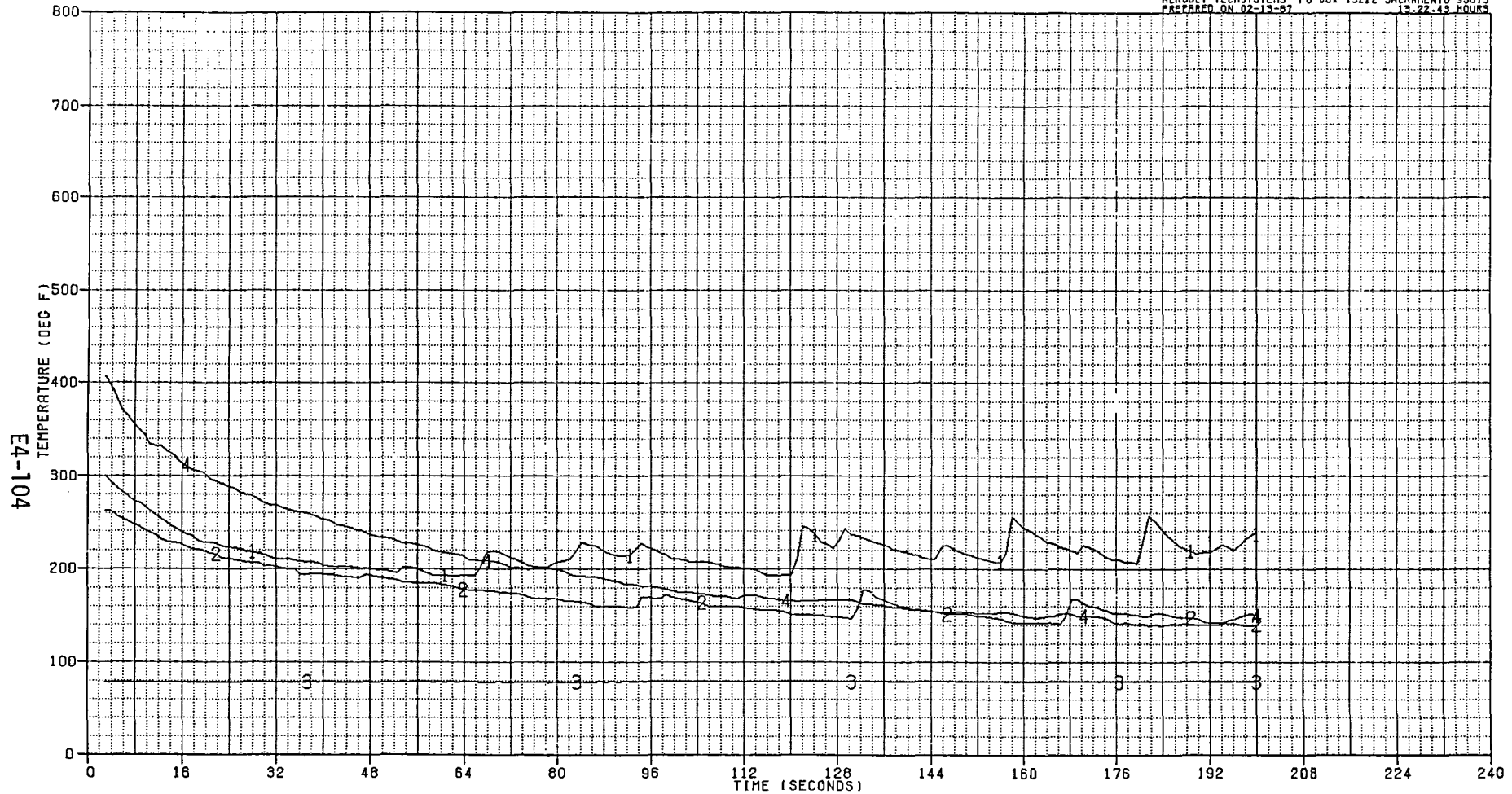


- 1 DPQJ PSI
- 2 DPFJ PSI
- 3 KWQJ
- 4 KWFJ
- 5 CSTRPE FT/SEC
- 6 CSTAR FT/SEC



INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-229-A6-134  
 TEST DATE 06-19-86 1329 HOURS

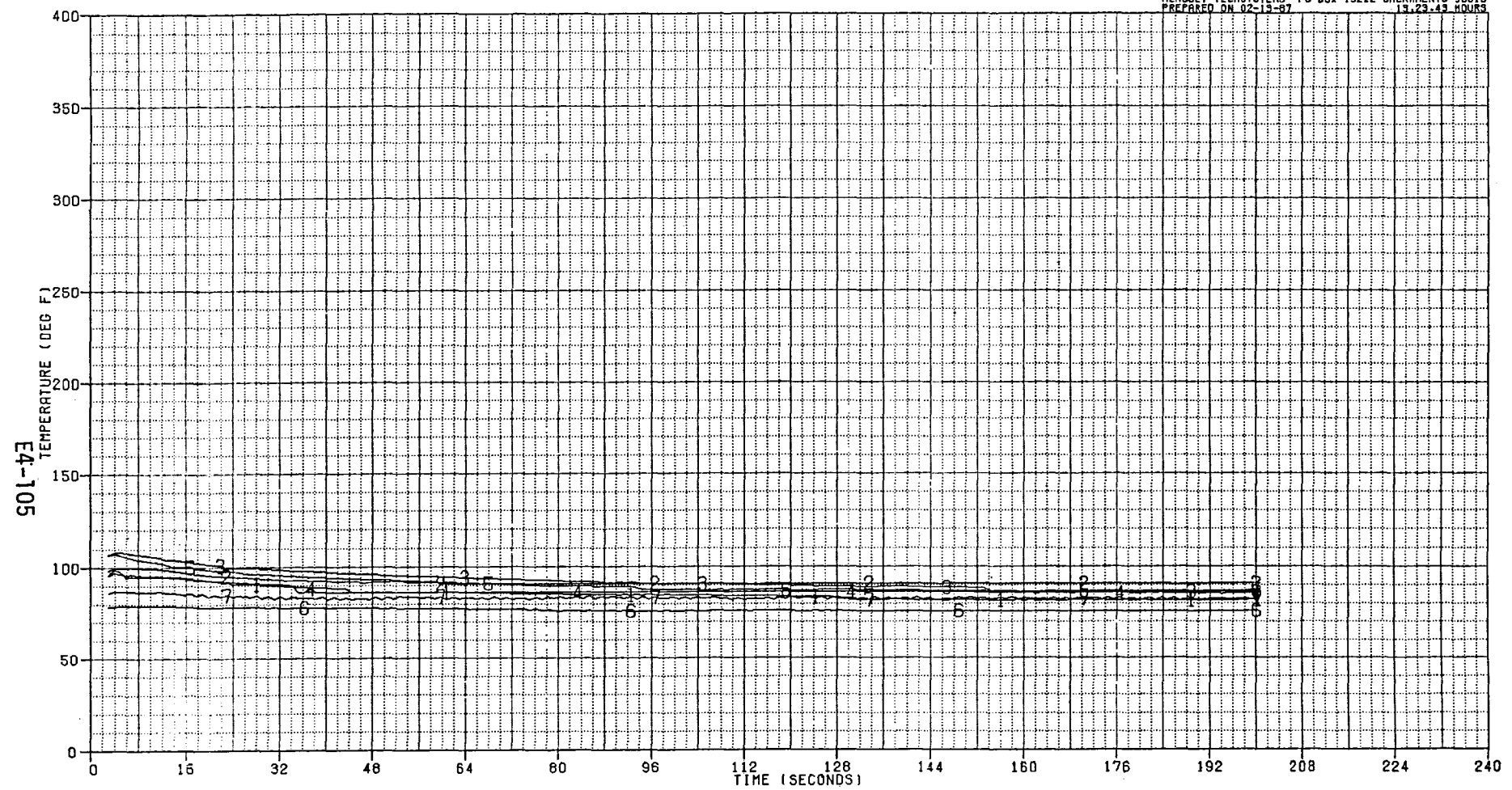
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-13-87 13:22:43 HOURS



1 TC-7 DEG F  
2 TC-10 DEG F  
3 TC-11 DEG F  
4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-134  
BARREL DATA  
TEST DATE 06-19-86 1329 HOURS

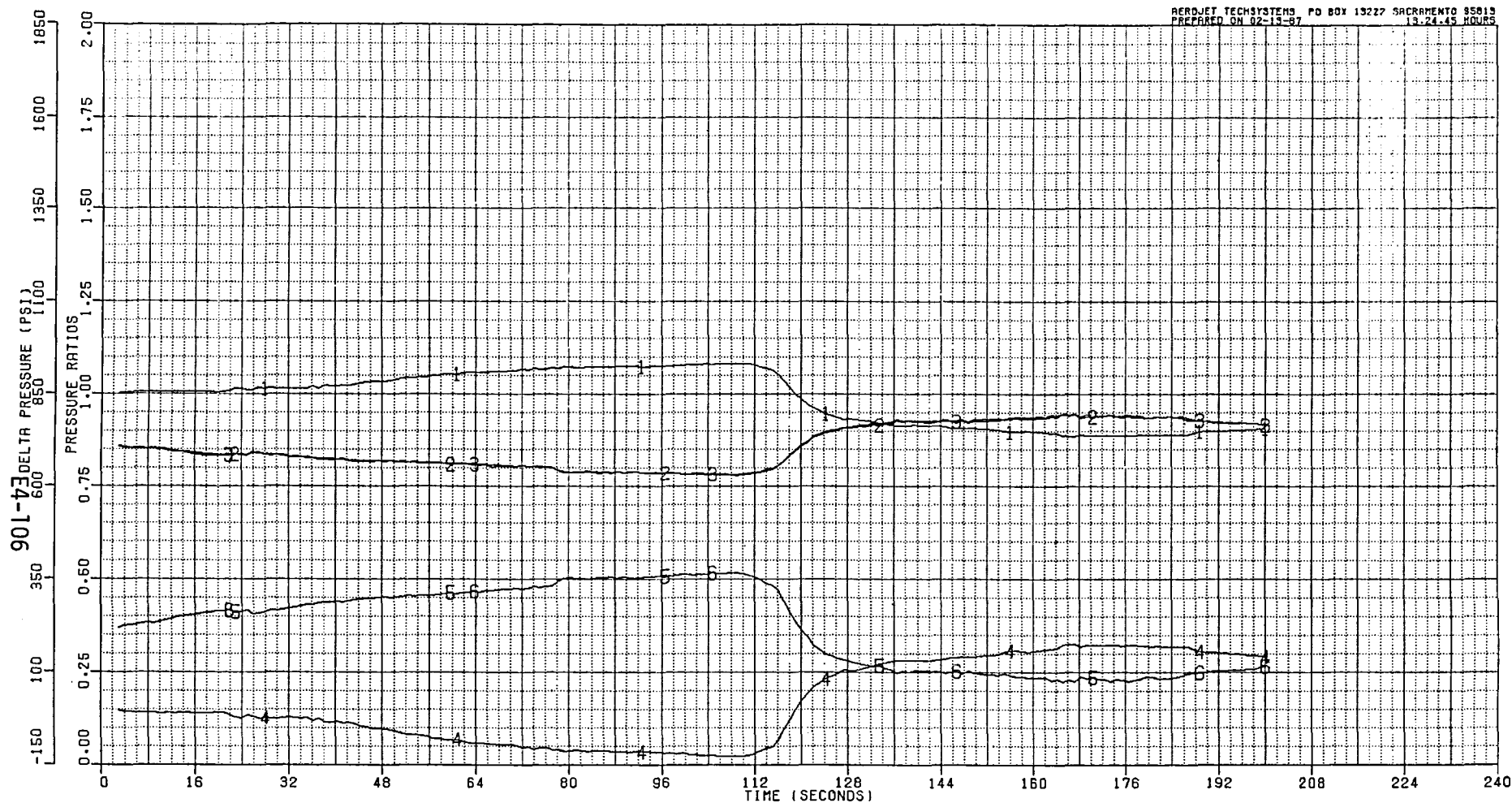
AEROJET  
**TechSystems**  
COMPANY



- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F



COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-134  
 TEST DATE 06-19-86 1329 HOURS

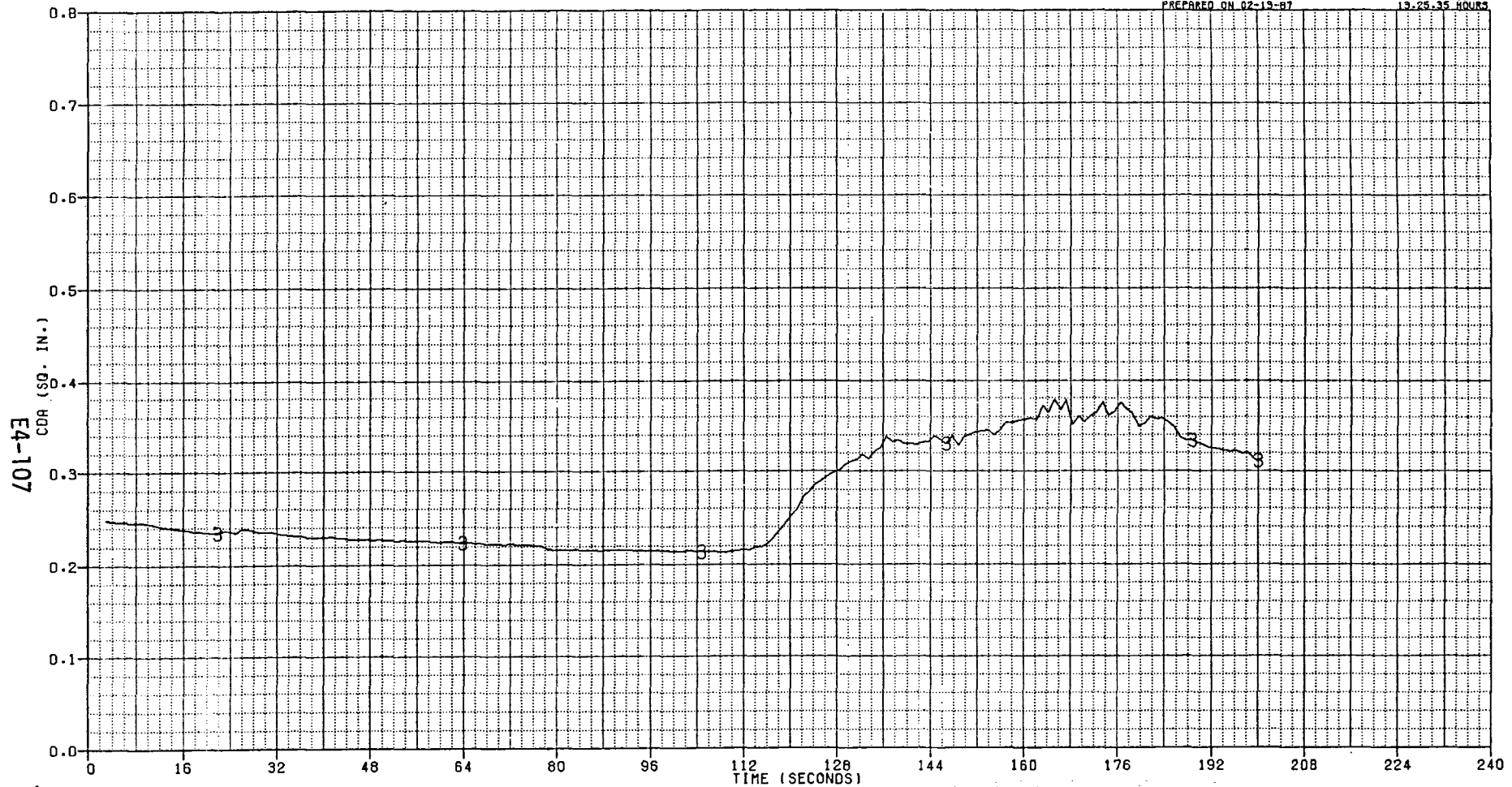


- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

AEROJET  
TechSystems  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-134  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 06-19-86 1329 HOURS

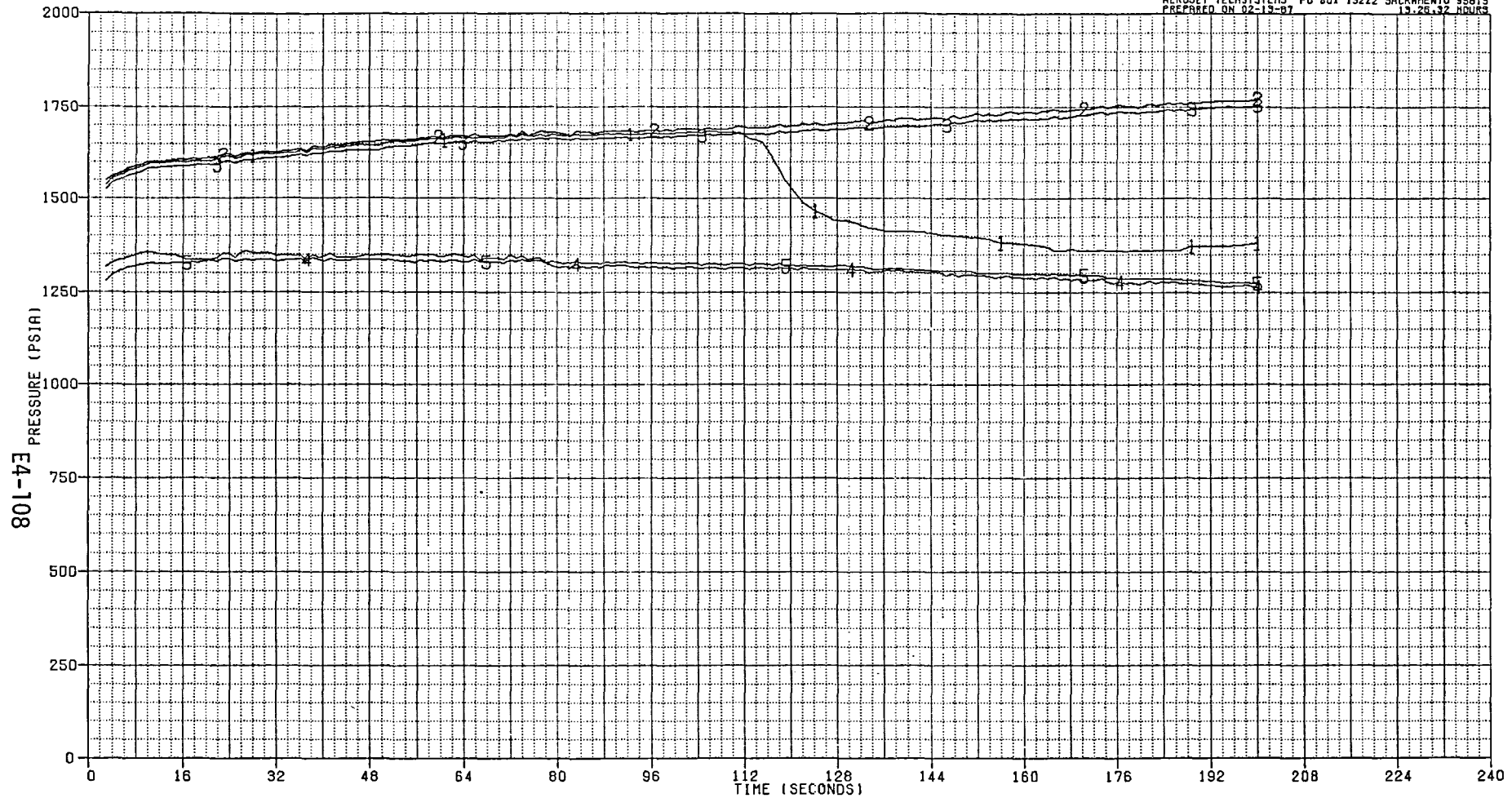


1 NA1 SO-IN.  
 2 NA2 SO-IN.  
 3 CDA

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-134  
 NOZZLE AREA CHANGE  
 TEST DATE 06-19-86 1329 HOURS





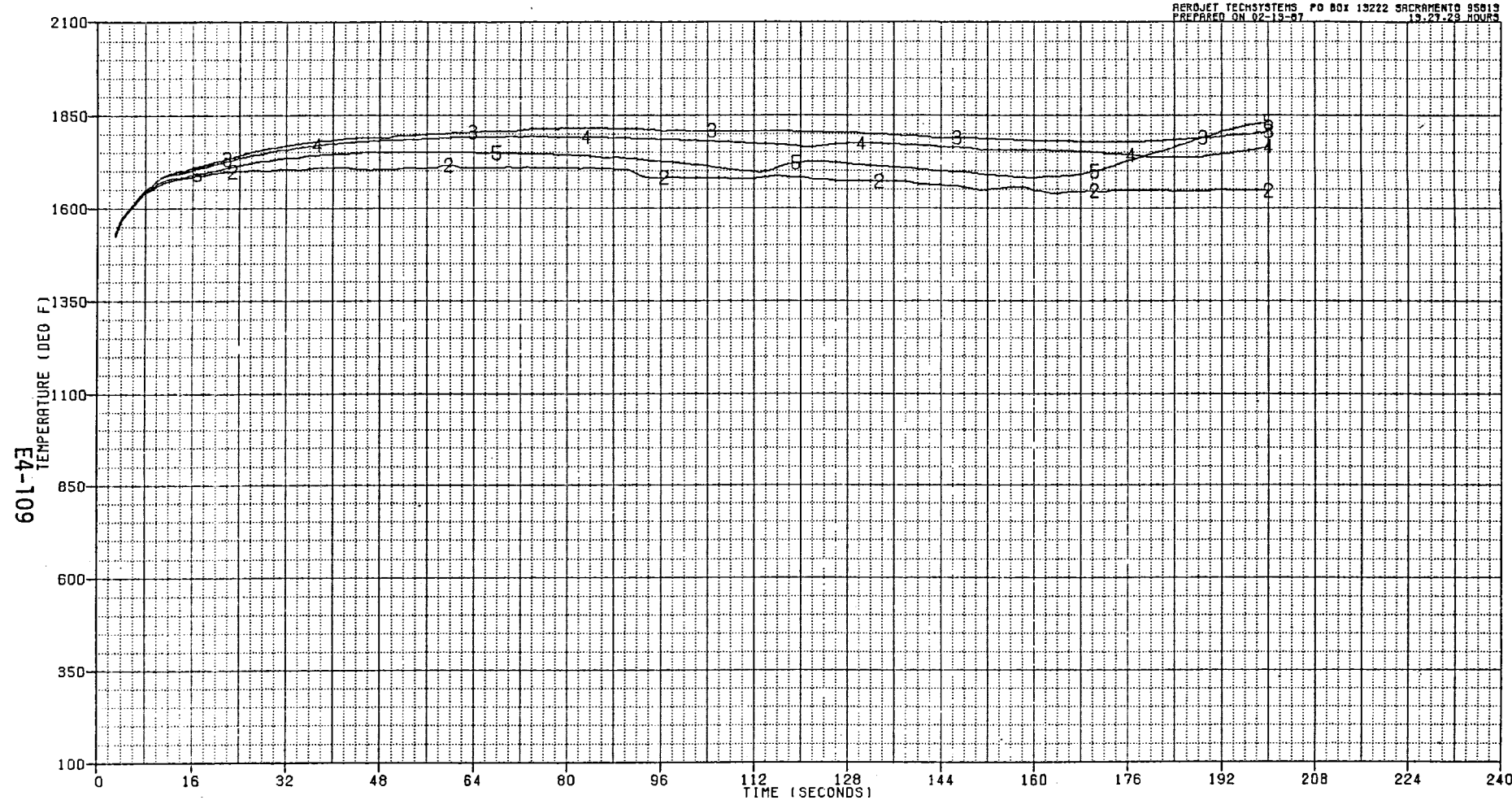


- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-134  
 PRESSURE MEASUREMENTS  
 TEST DATE 06-19-86 1329 HOURS







AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-13-87 13:27:23 HOURS

- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F

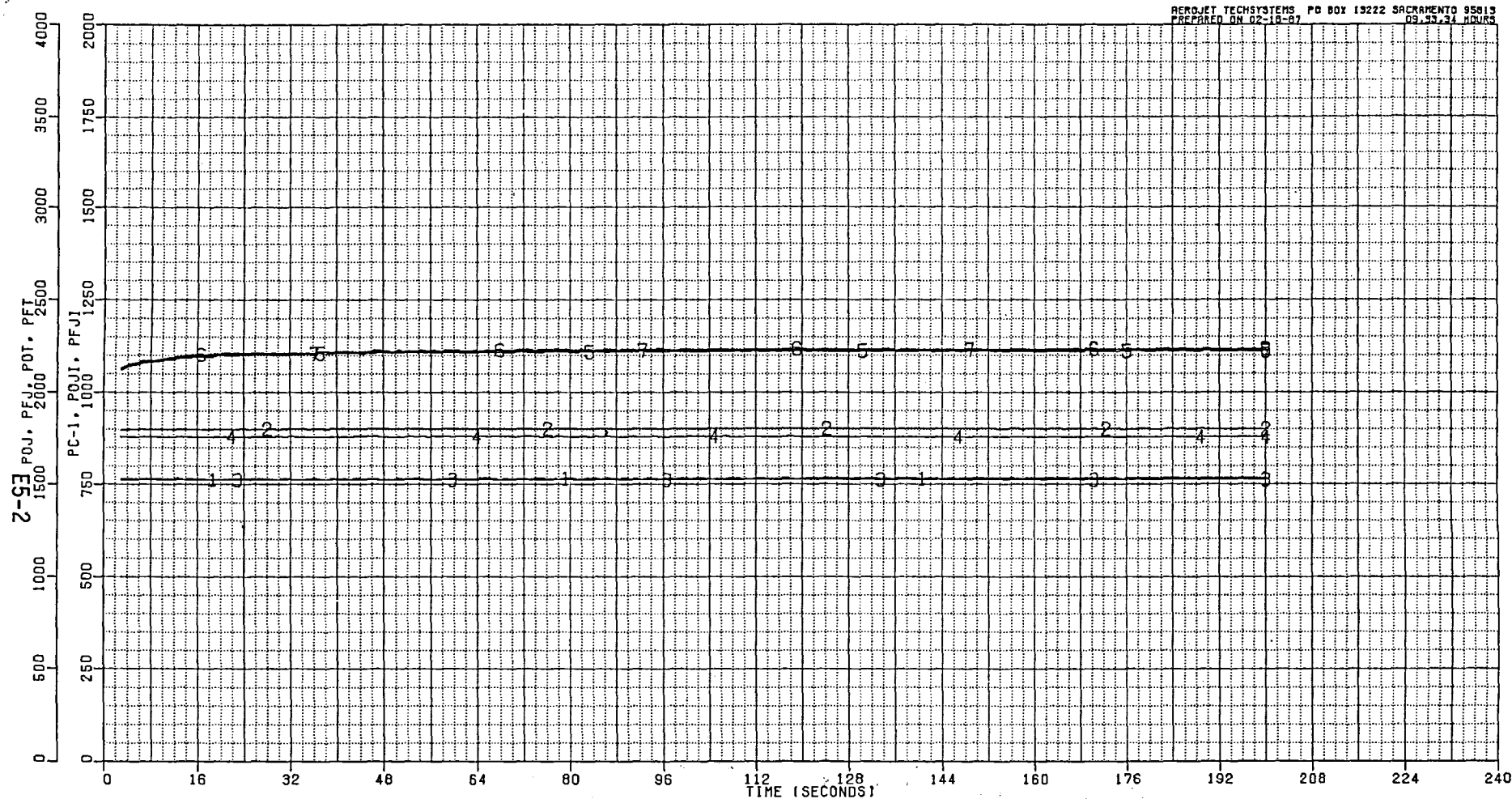
GAS TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-134  
 PRESSURE MEASUREMENTS  
 TEST DATE 06-19-86 1329 HOURS



**APPENDIX E-5**

**1986 LO<sub>2</sub>/METHANE**

**GAS GENERATOR DATA PLOTS**

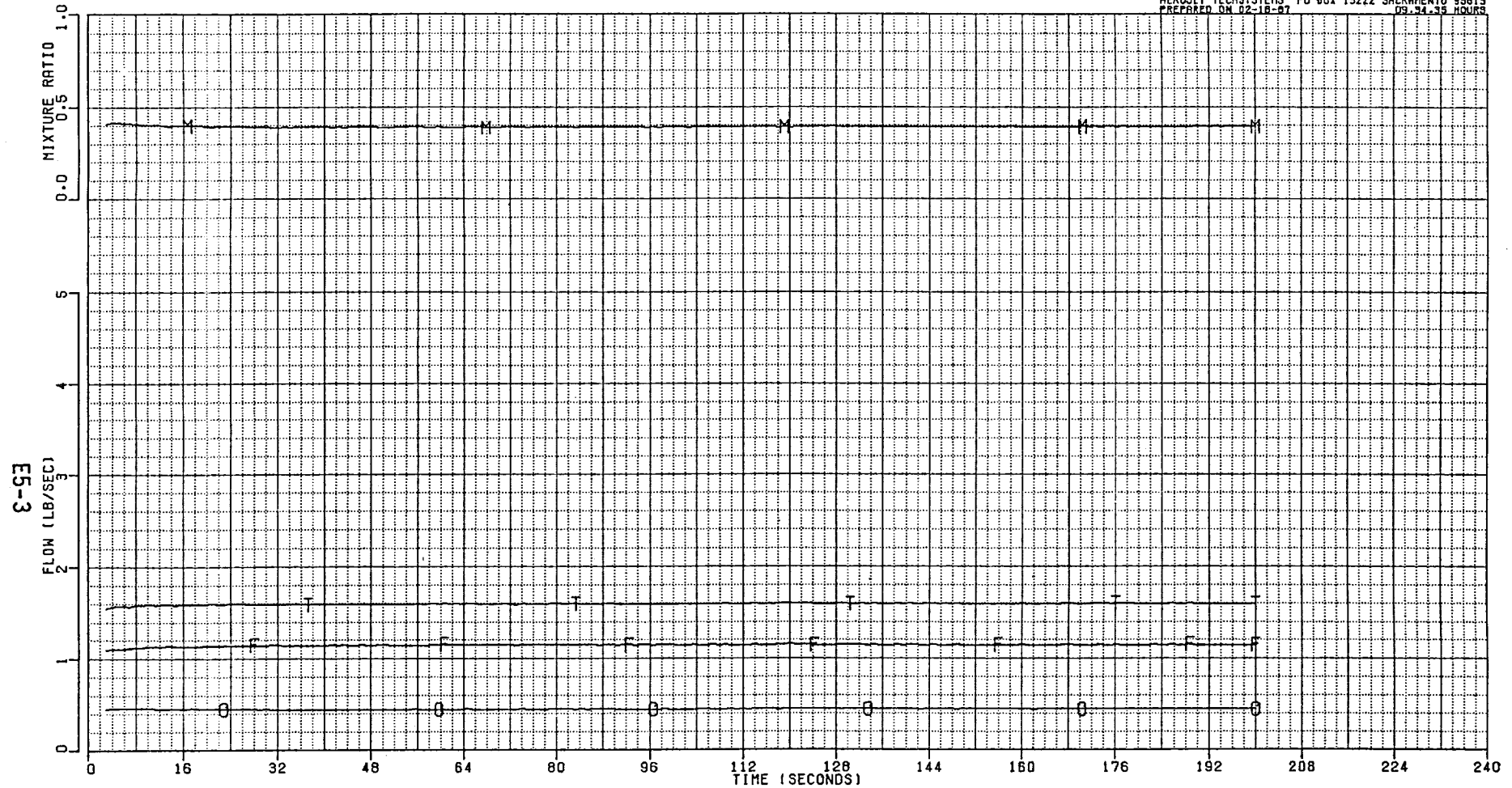


1 POT PSIA  
2 PFT PSIA  
3 POJ PSIA  
4 PFJ PSIA  
5 PC-1 PSIA  
6 POJI PSIA  
7 PFJI PSIA

AEROJET  
**TechSystems**  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-229-A6-138

TEST DATE 07-24-86 1254 HOURS



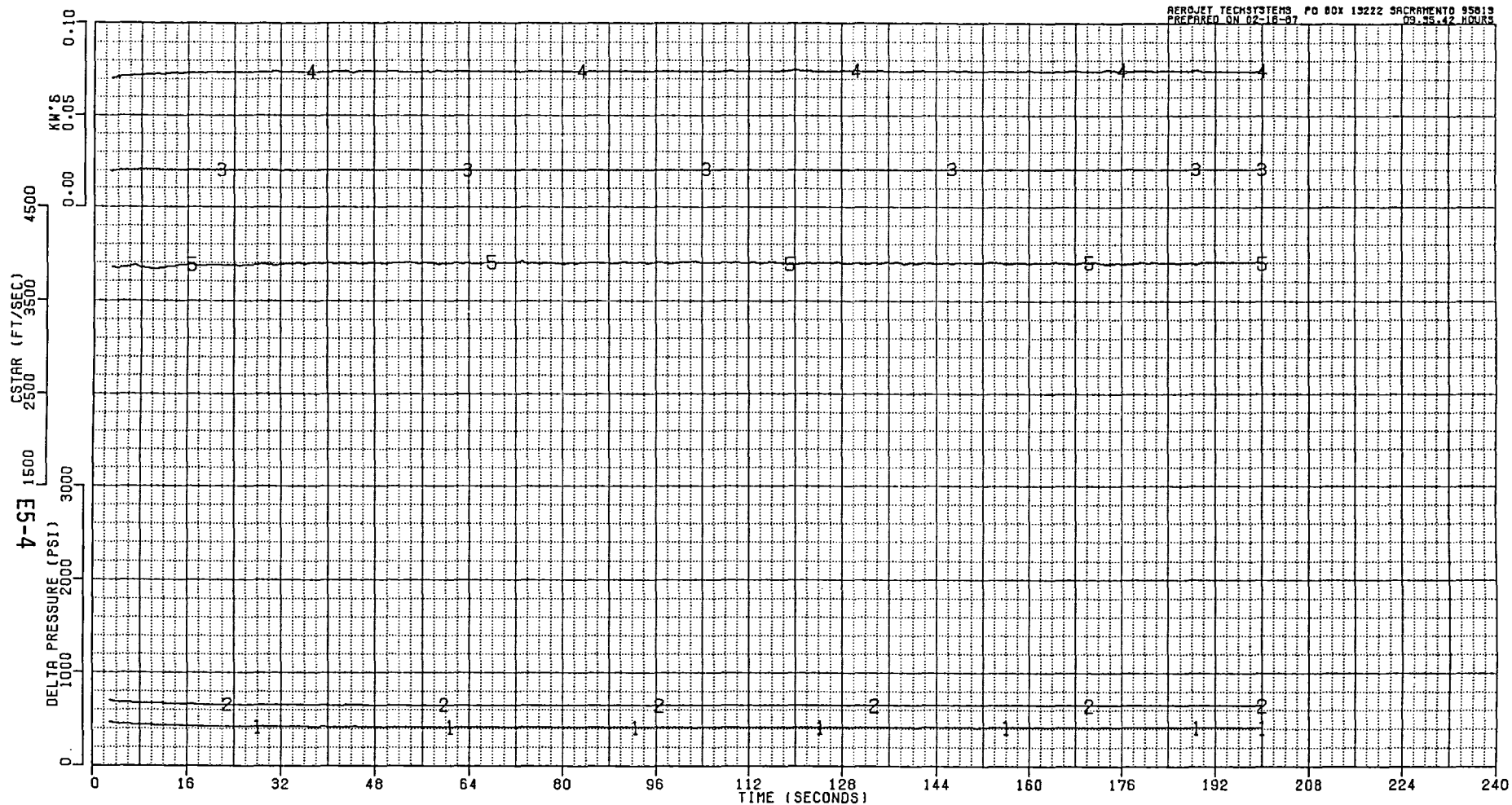
F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-138

TEST DATE 07-24-86 1254 HOURS

AEROJET  
**TechSystems**  
 COMPANY

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-10-87 09:55:42 HOURS

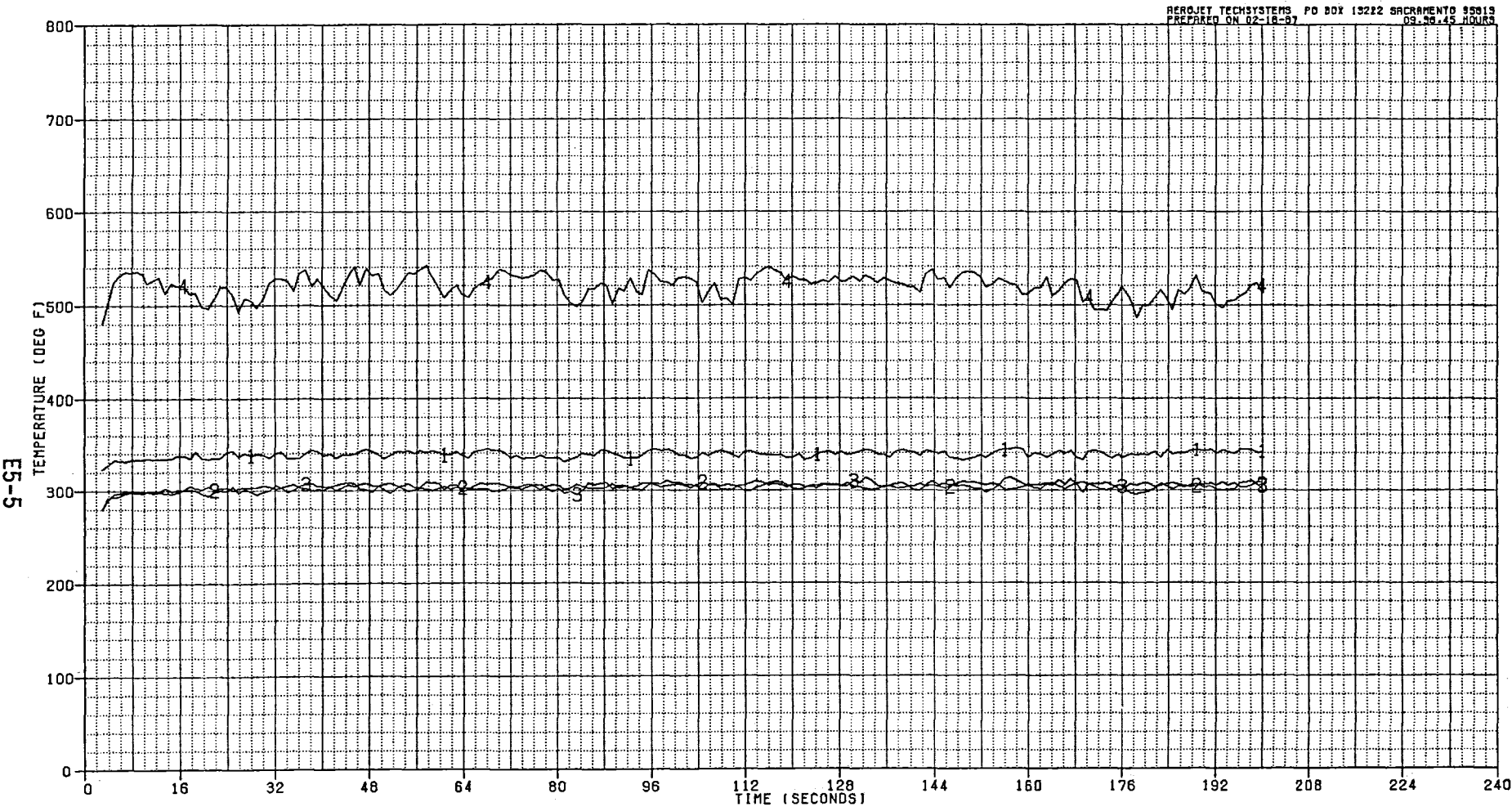


- 1 DPQJ PSI
- 2 DPFJ PSI
- 3 KWOJ
- 4 KWFJ
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

AEROJET  
**TechSystems**  
 COMPANY

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-229-A6-138

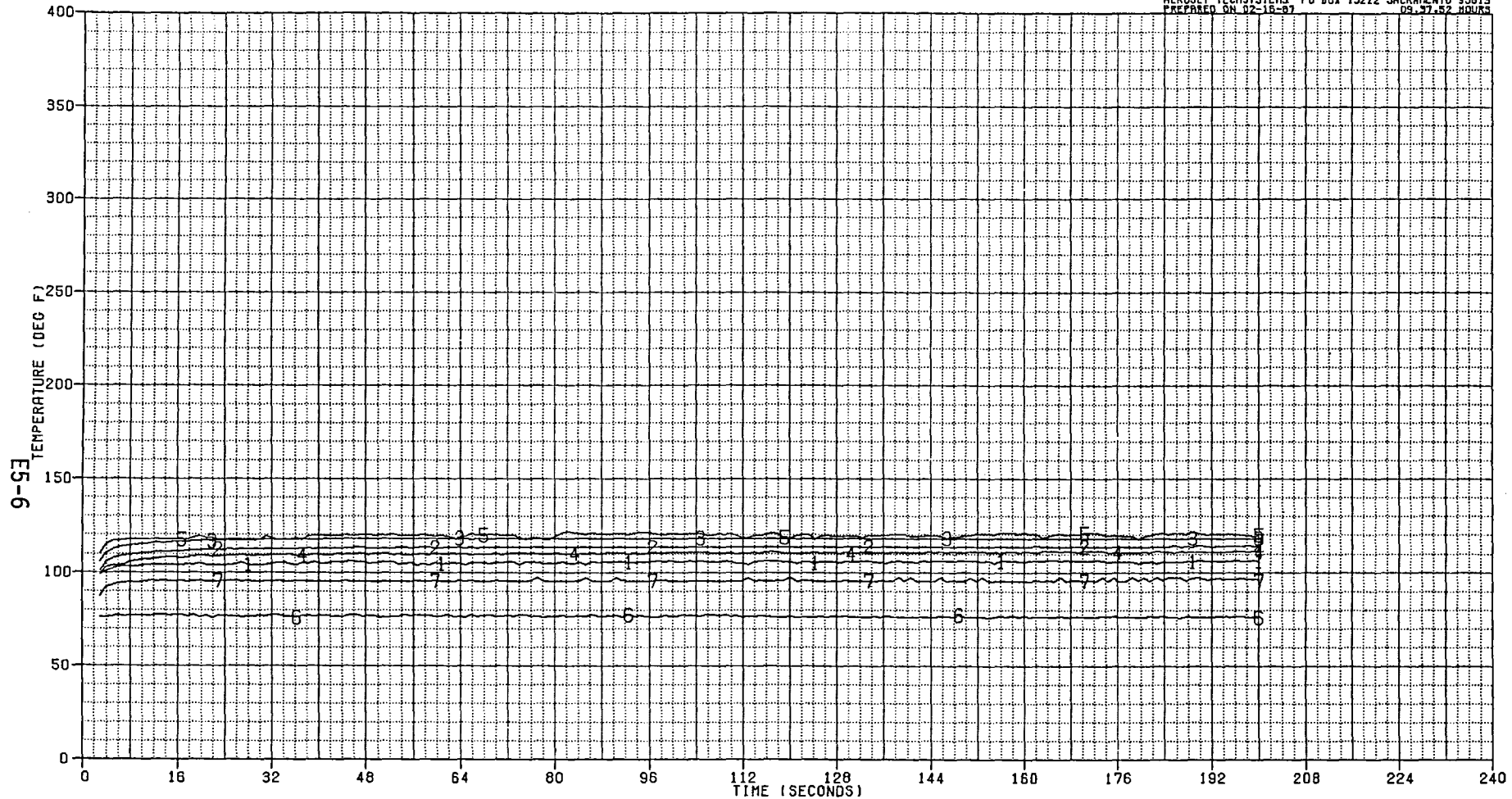
TEST DATE 07-24-86 1254 HOURS



1 TC-7 DEG F  
2 TC-10 DEG F  
3 TC-11 DEG F  
4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-138  
BARREL DATA  
TEST DATE 07-24-86 1254 HOURS

AEROJET  
@TechSystems  
COMPANY

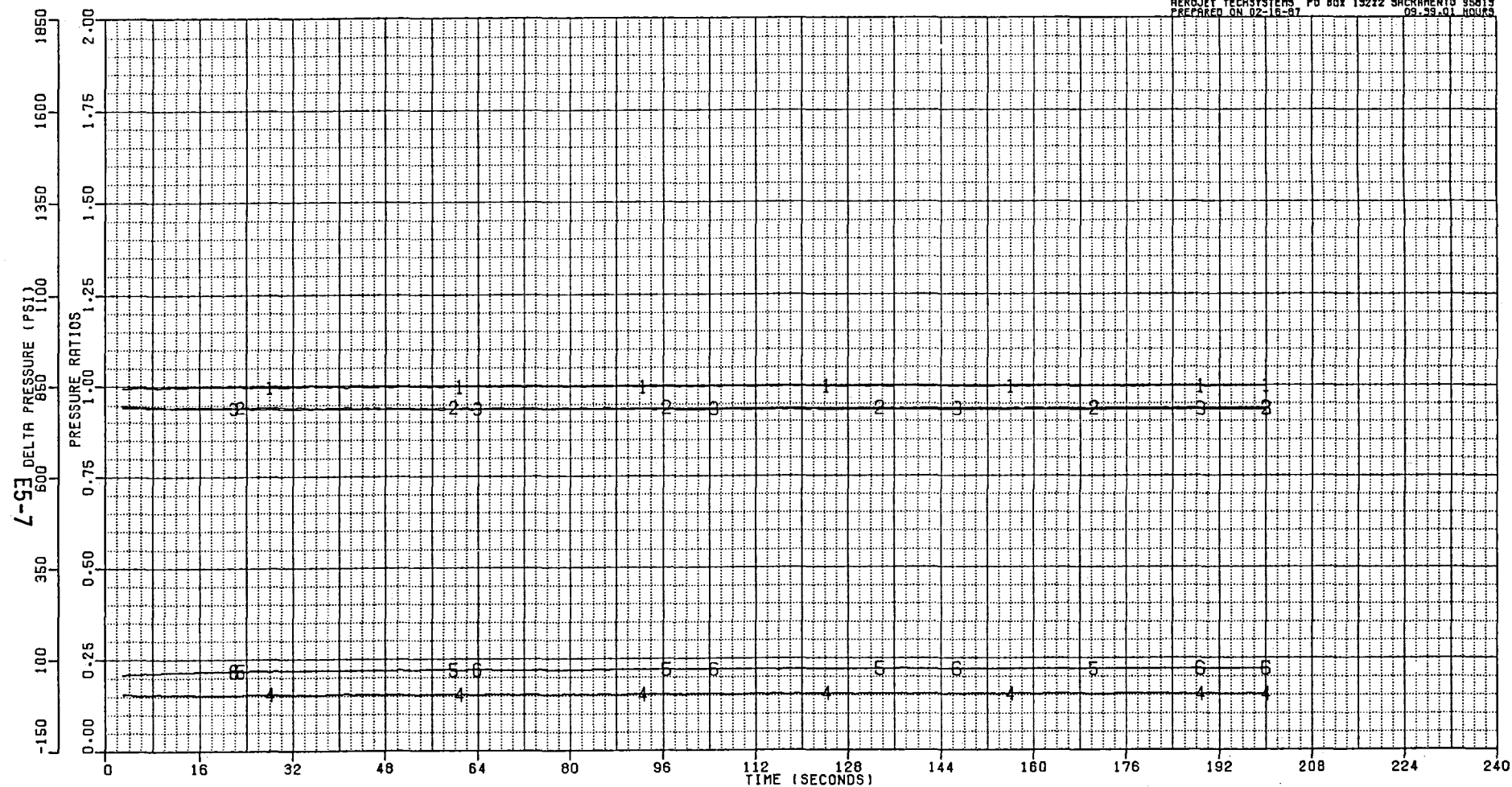


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

AEROJET  
**TechSystems**  
 COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-138

TEST DATE 07-24-86 1254 HOURS



1 PRTR  
2 PRTS  
3 PRTS CORR  
4 OPTR  
5 DPTS-C  
6 DPTS

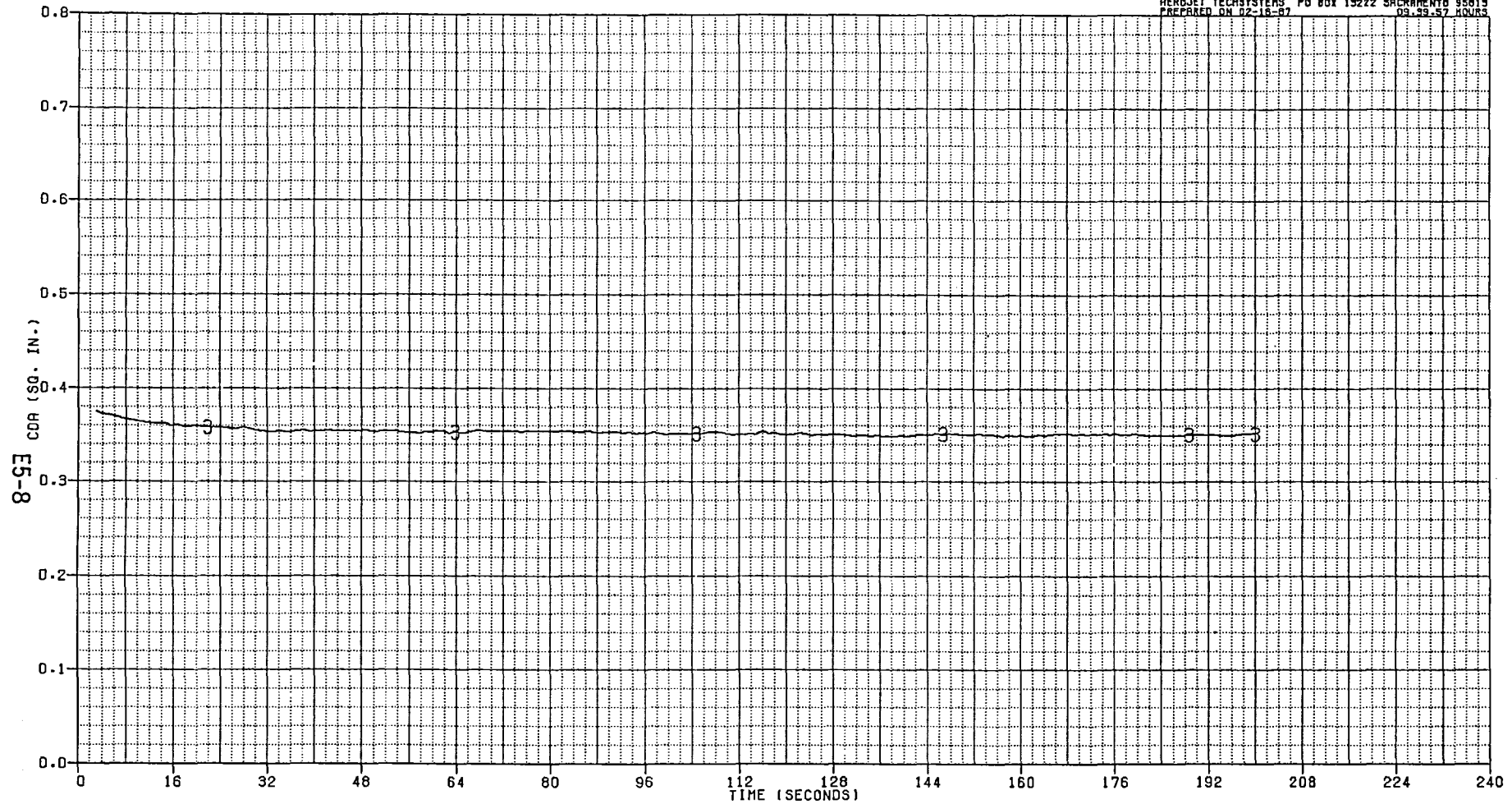
PSI  
PSI  
PSI

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-138  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 07-24-86 1254 HOURS



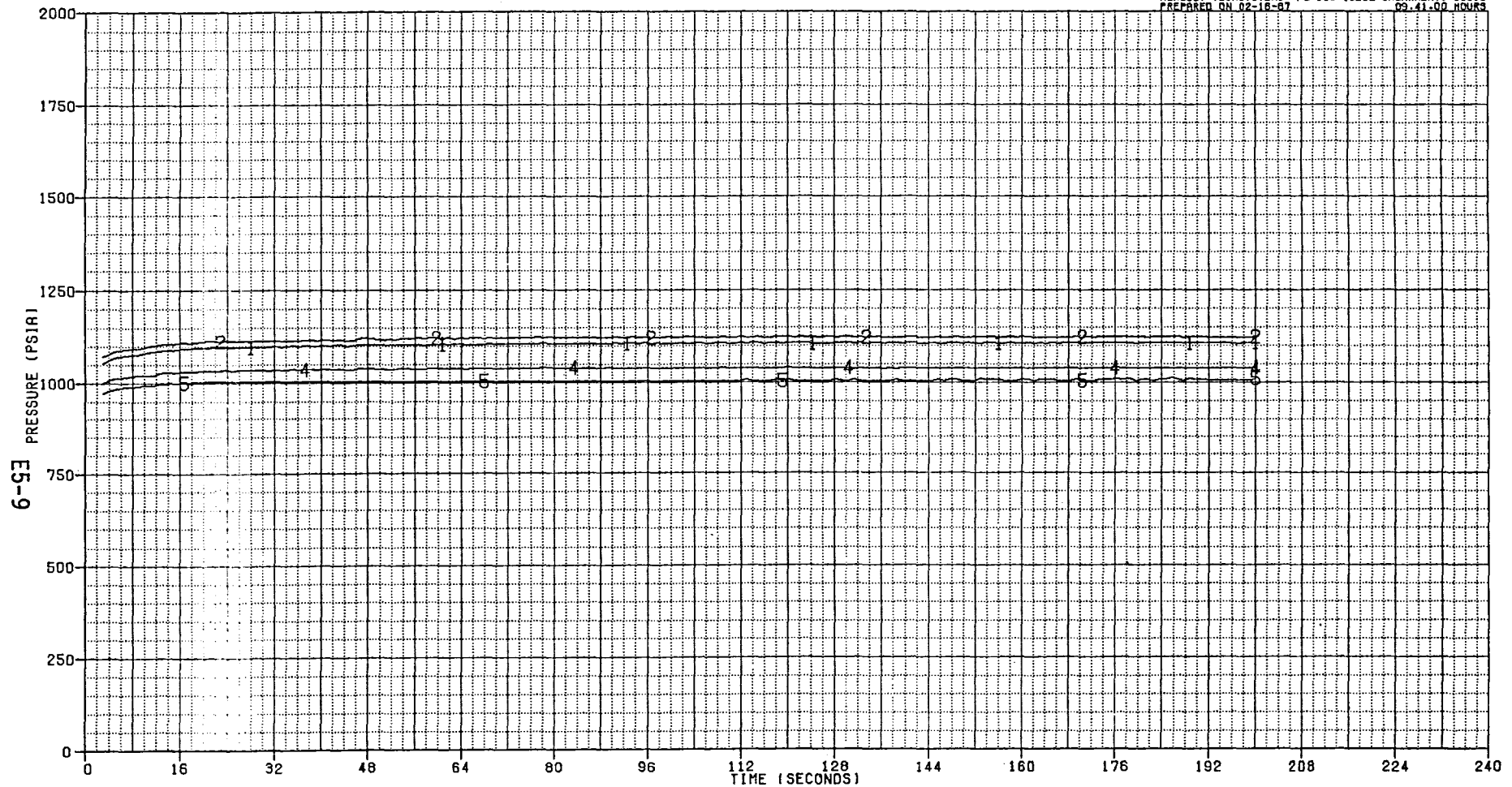
AEROJET TECHSYSTEMS PO BOX 15222 SACRAMENTO 95815  
PREPARED ON 02-18-87 09:39:57 HOURS



1 NR1 SQ. IN.  
2 NR2 SQ. IN.  
3 CD

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-138  
NOZZLE AREA CHANGE  
TEST DATE 07-24-86 1254 HOURS

AEROJET  
TechSystems  
COMPANY

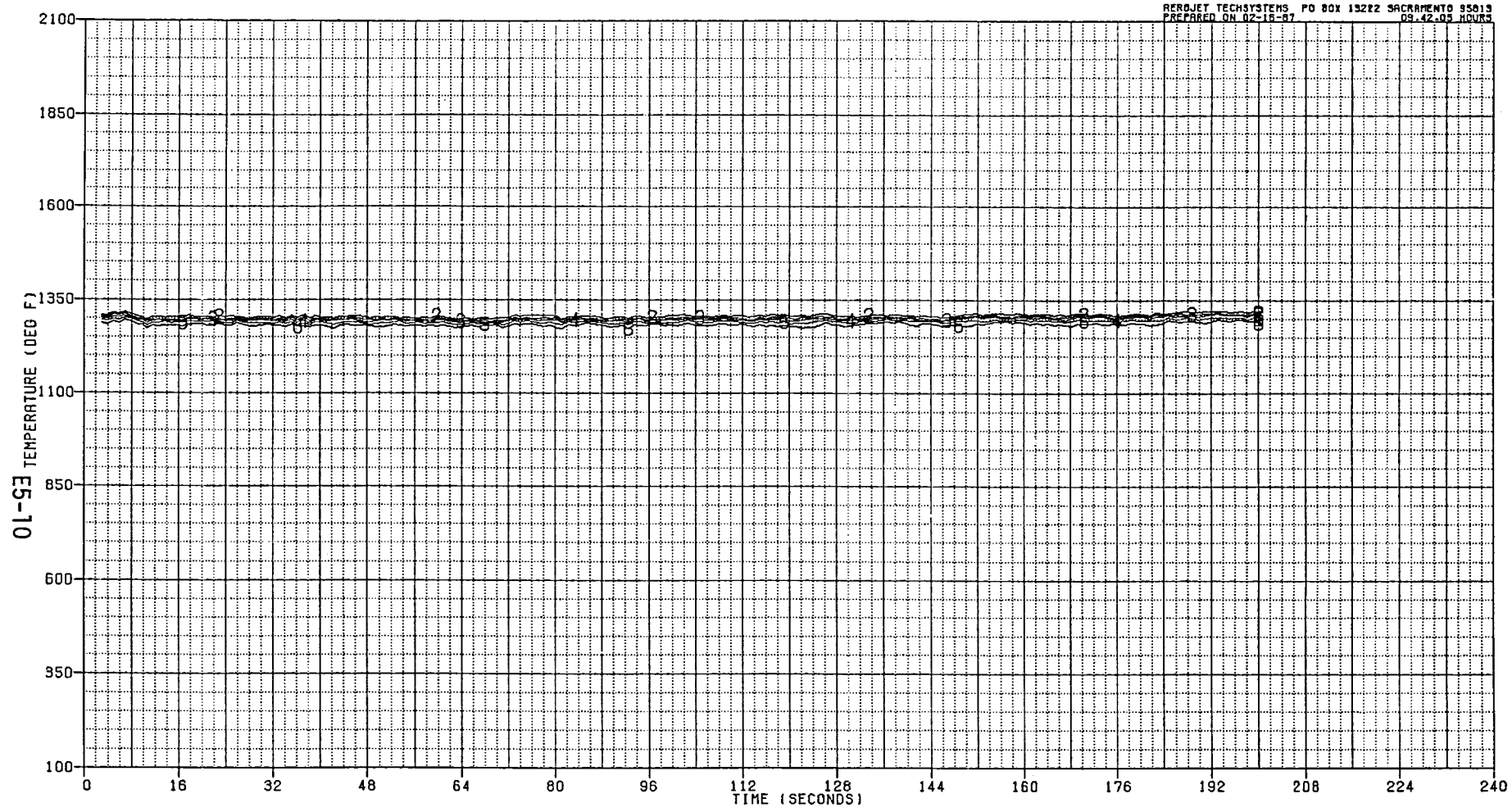


1 PCTSU PSIA  
 2 PCTSU-2 PSIA  
 3 PCTSU-3 PSIA  
 4 PCTSD PSIA  
 5 PCTSD-2 PSIA

AEROJET  
**TechSystems**  
 COMPANY

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-138  
 PRESSURE MEASUREMENTS  
 TEST DATE 07-24-86 1254 HOURS

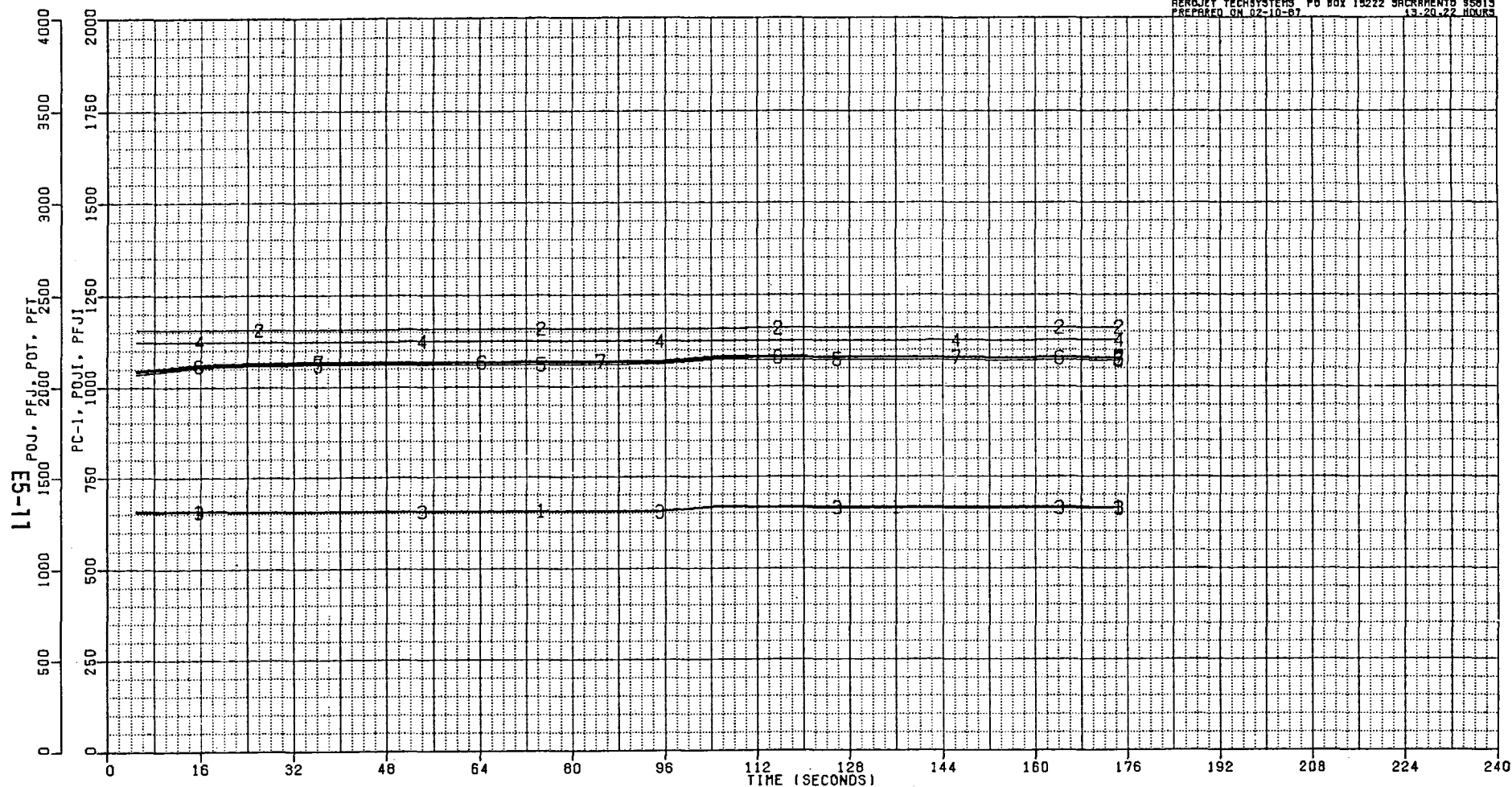
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 07-15-87 09:42:09 HOURS



- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-138  
PRESSURE MEASUREMENTS  
TEST DATE 07-24-86 1254 HOURS



AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-10-87 13:20:22 HOURS

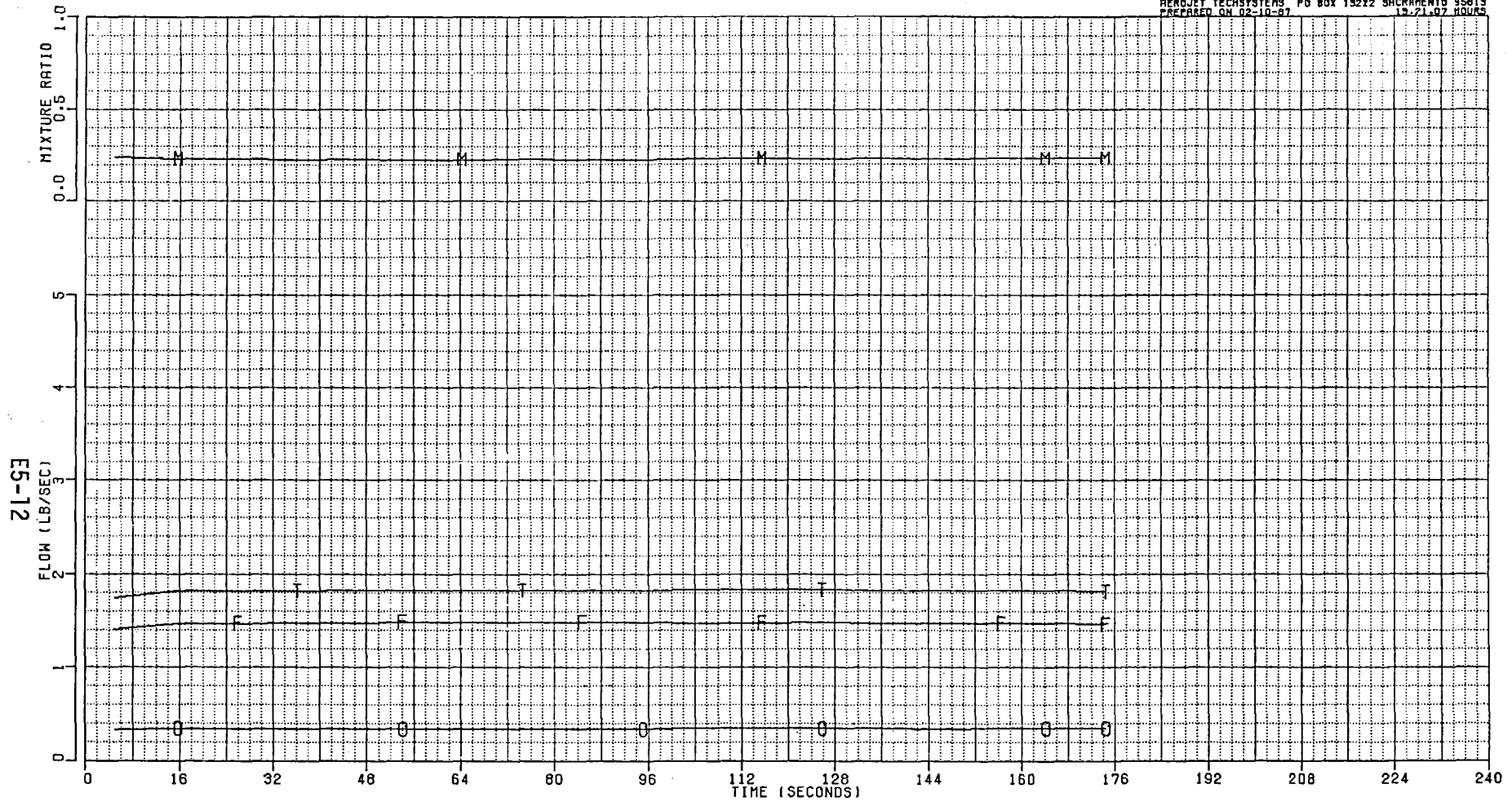
1 POT PSIA  
2 PFT PSIA  
3 POJ PSIA  
4 PFJ PSIA  
5 PC-1 PSIA  
6 POJI PSIA  
7 PFJI PSIA

AEROJET  
TechSystems  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-229-A6-139

TEST DATE 07-30-86 1300 HOURS

AEROJET TECHSYSTEMS, P.O. BOX 13212 SACRAMENTO 95813  
 PREPARED ON 02-10-87 13:21.07 HOURS

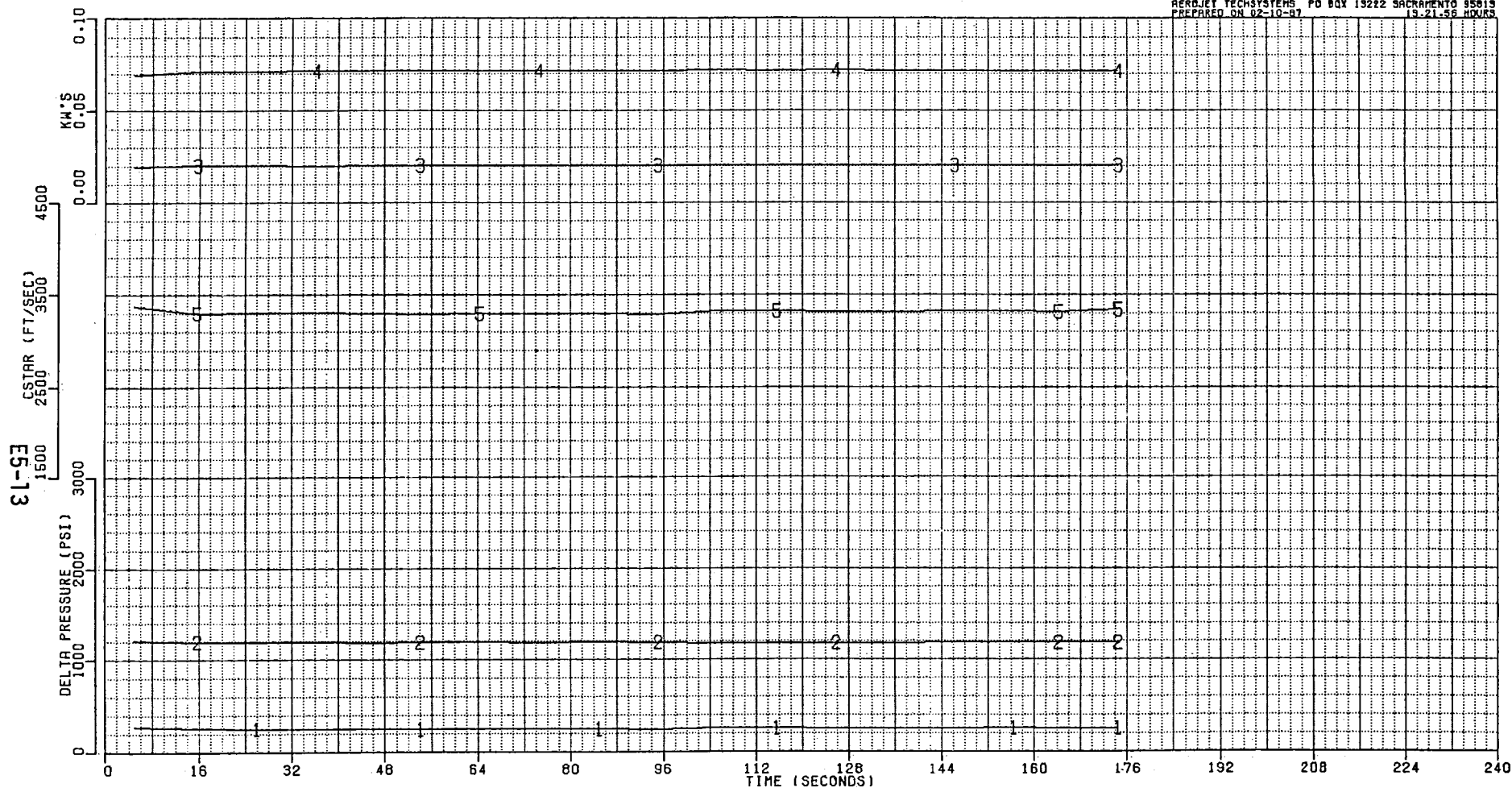


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-139

TEST DATE 07-30-86 1300 HOURS

AEROJET  
**TechSystems**  
 COMPANY

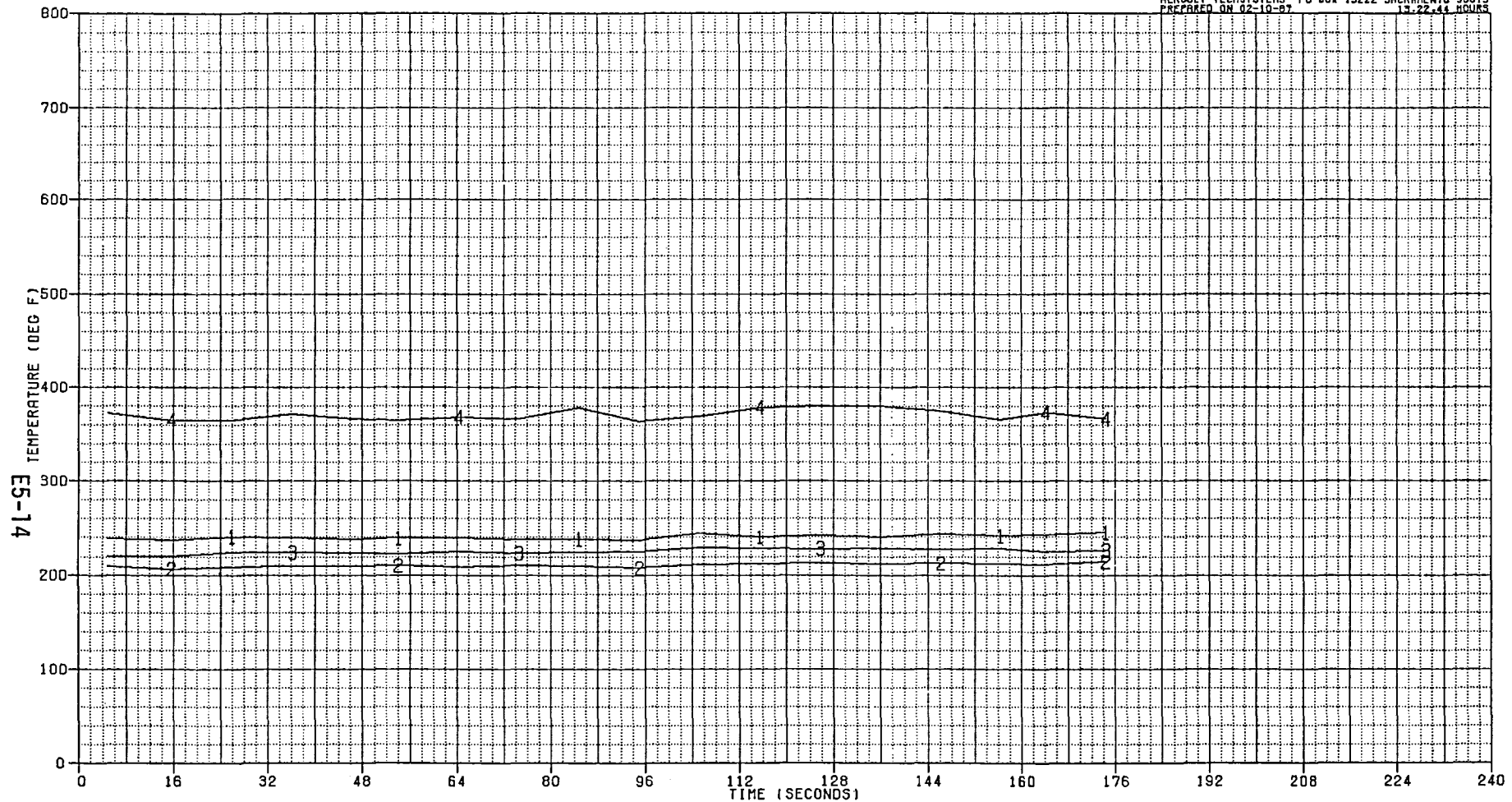


1 DP0J PSI  
2 DPFJ PSI  
3 KWQJ  
4 KWFJ  
5 CSTRPB FT/SEC  
6 CSTAR FT/SEC

AEROJET  
**TechSystems**  
COMPANY

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-229-A6-139

TEST DATE 07-30-86 1300 HOURS



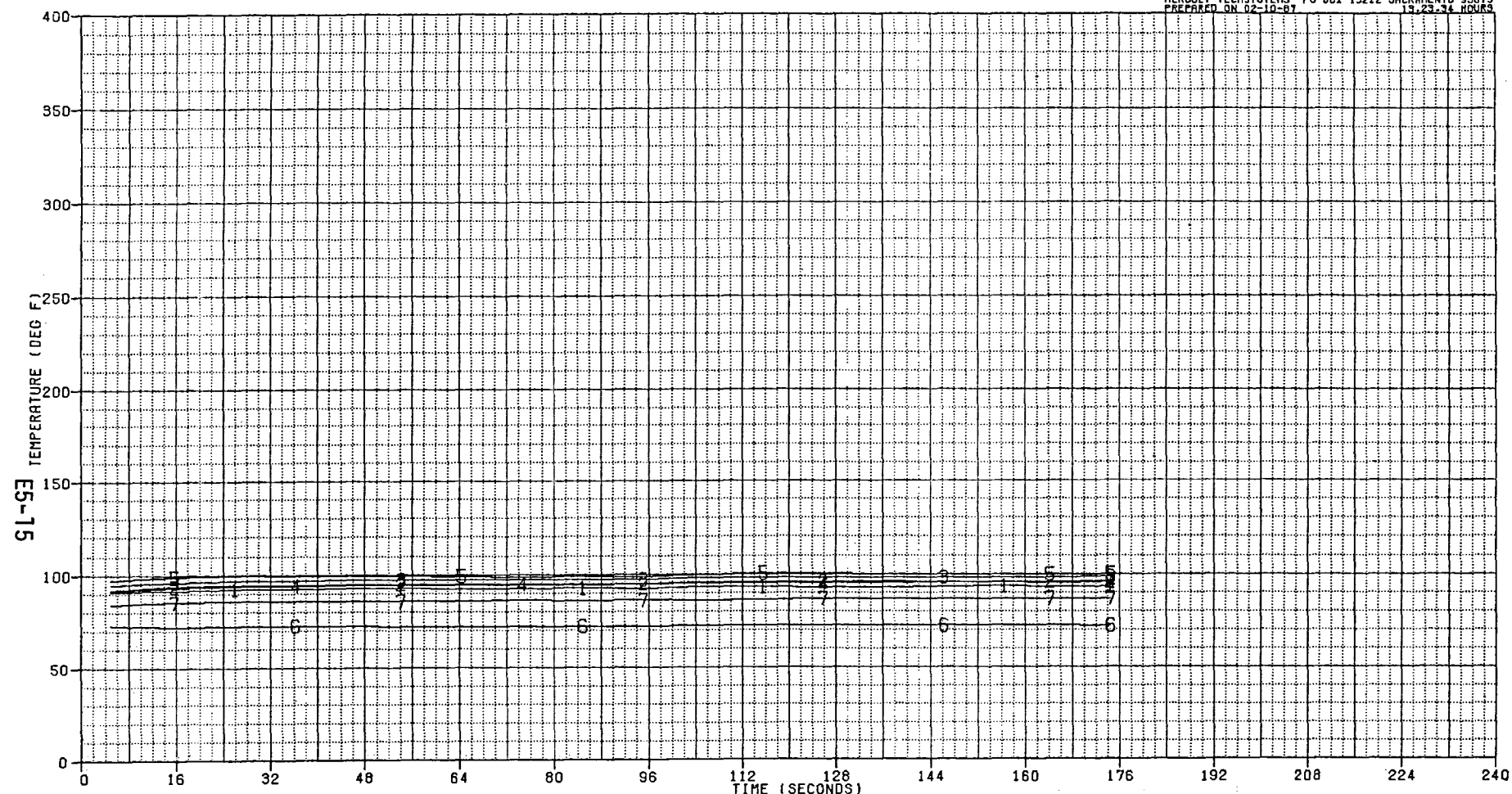
- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-139  
 BARREL DATA  
 TEST DATE 07-30-86 1300 HOURS





AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-10-87 13,23.34 HOURS



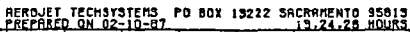
ES-15

- 1 THC-2 DEG F
- 2 THC-26 DEG F
- 3 THC-27 DEG F
- 4 THC-31 DEG F
- 5 THC-32 DEG F
- 6 THC-33 DEG F
- 7 TC-7C DEG F



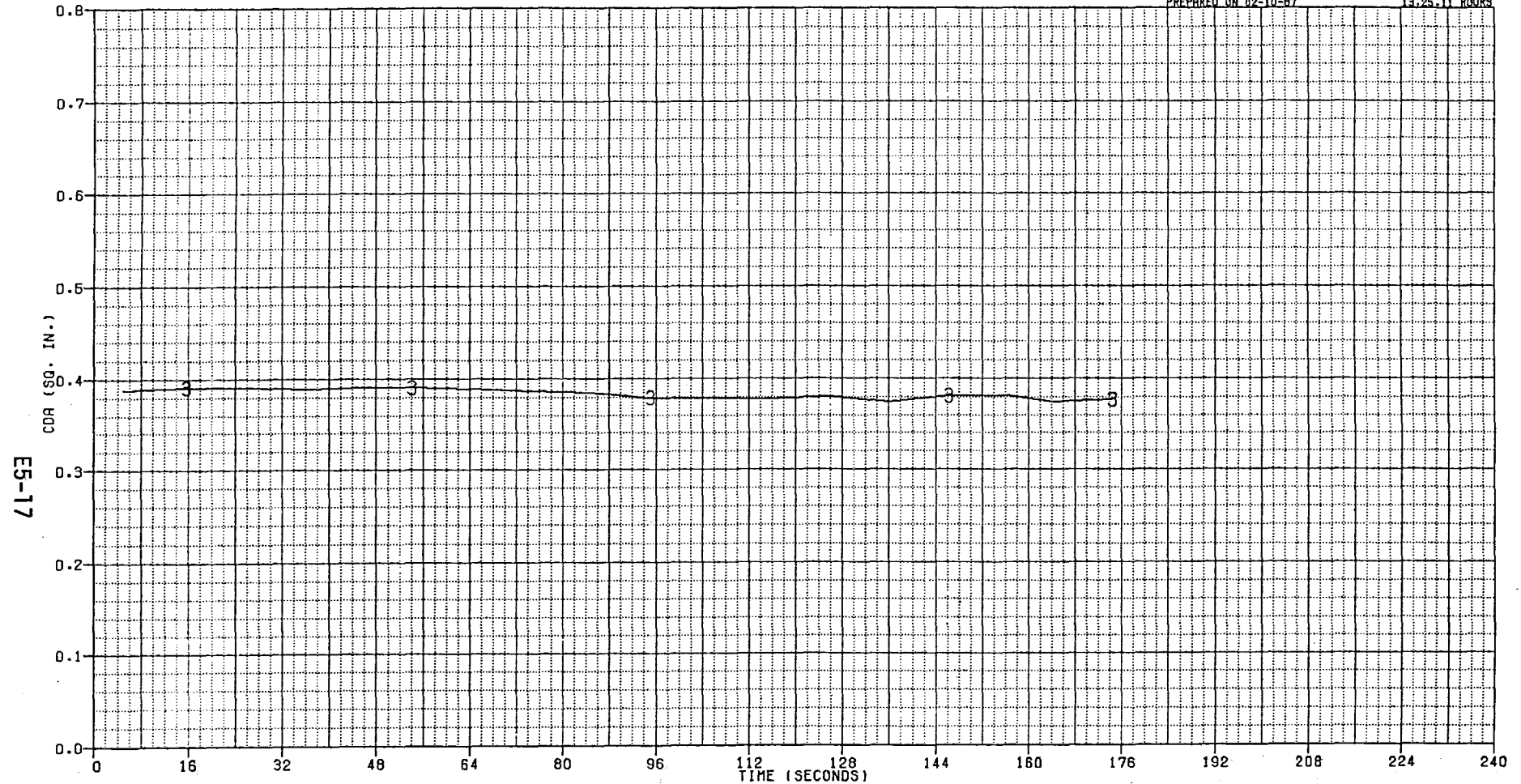
COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-139  
 TEST DATE 07-30-86 1300 HOURS





- TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-139  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 07-30-86 1300 HOURS



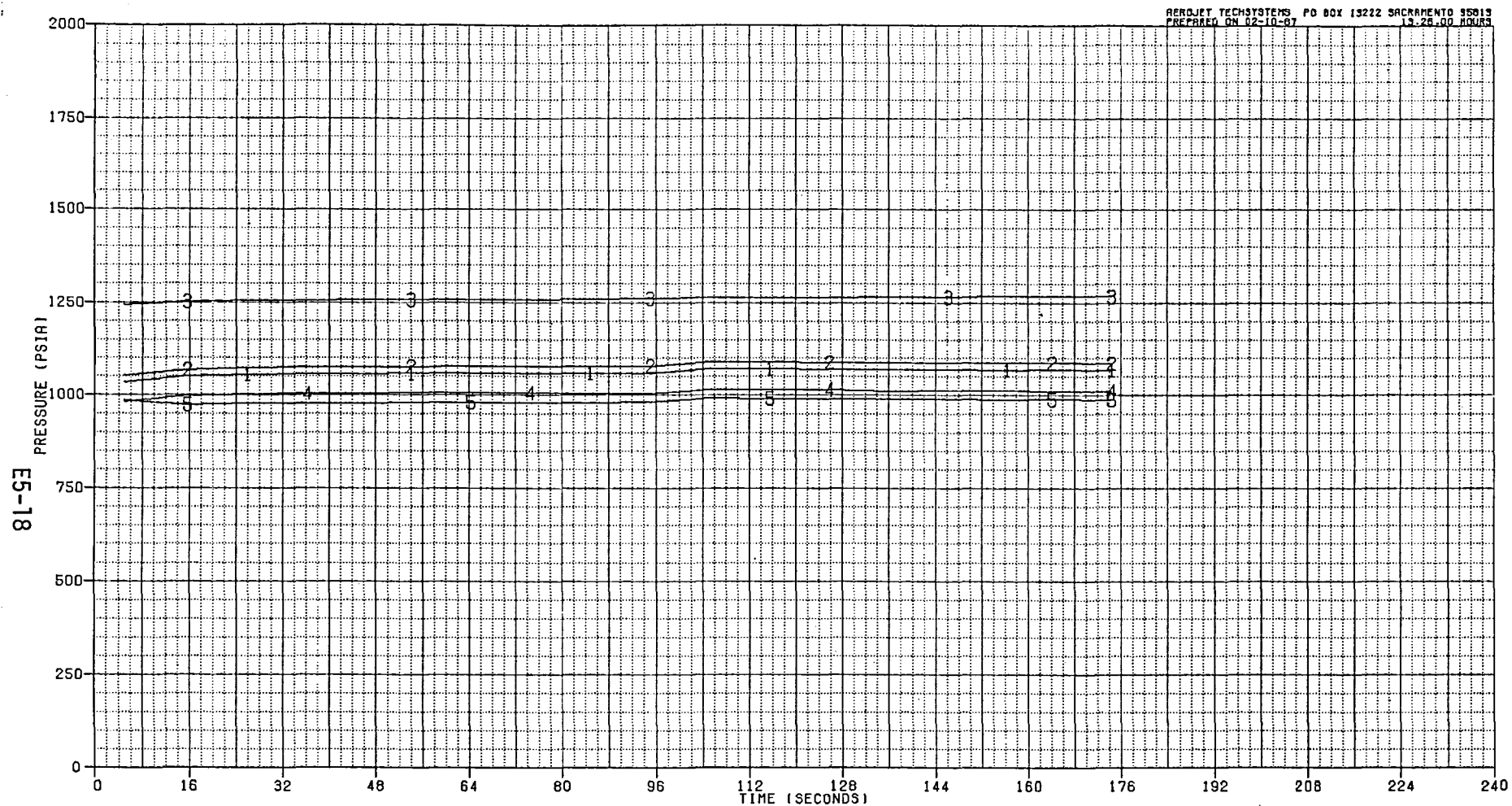


ES-17

- 1 NA1 SQ. IN.
- 2 NA2 SQ. IN.
- 3 CDA

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-139  
NOZZLE AREA CHANGE  
TEST DATE 07-30-86 1300 HOURS



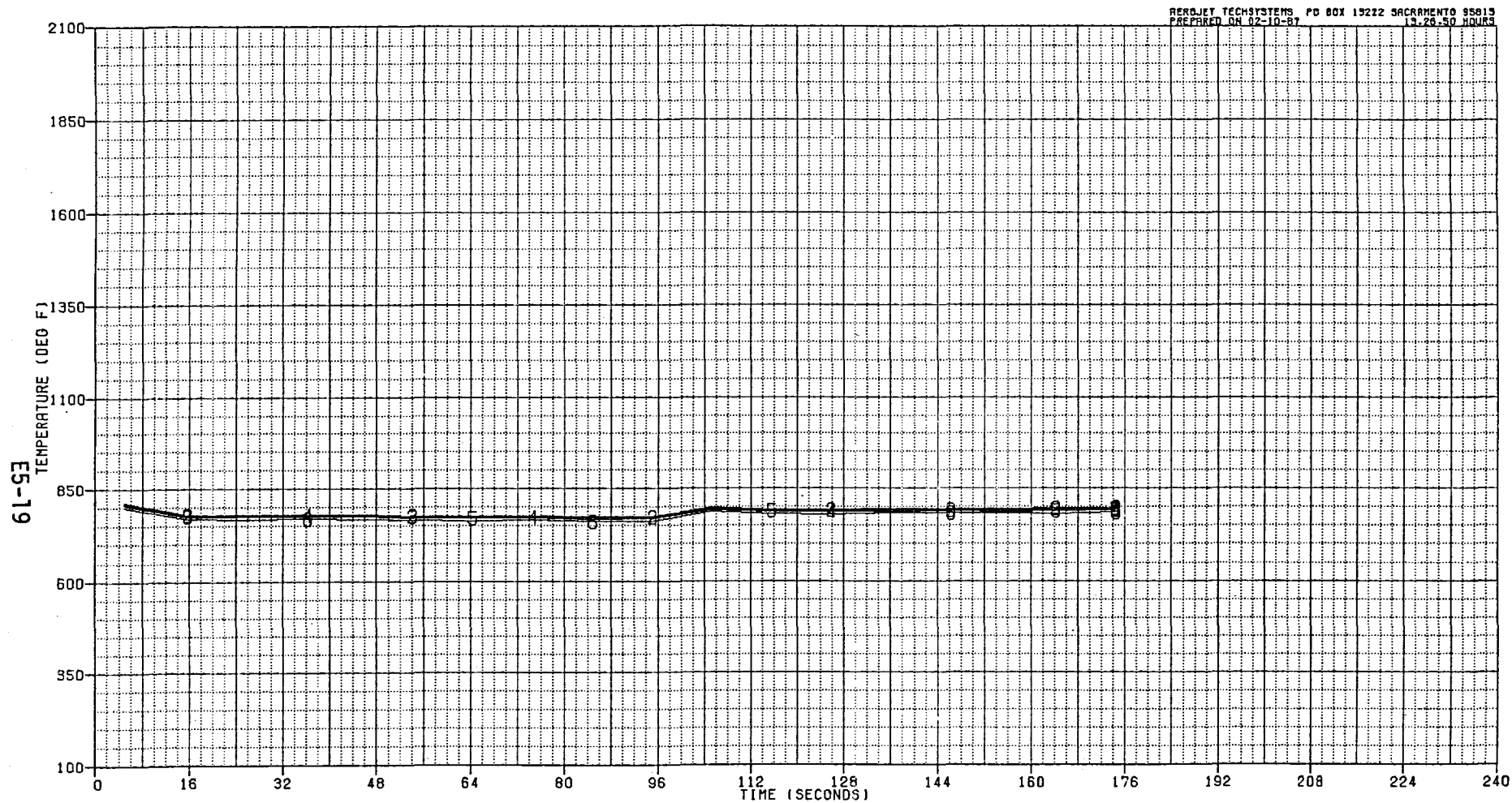


AEROJET TECHSYSTEMS PO BOX 13212 SACRAMENTO 95813  
 PREPARED ON 02-10-87 13:26.00 HOURS

- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA

AEROJET  
**TechSystems**  
 COMPANY

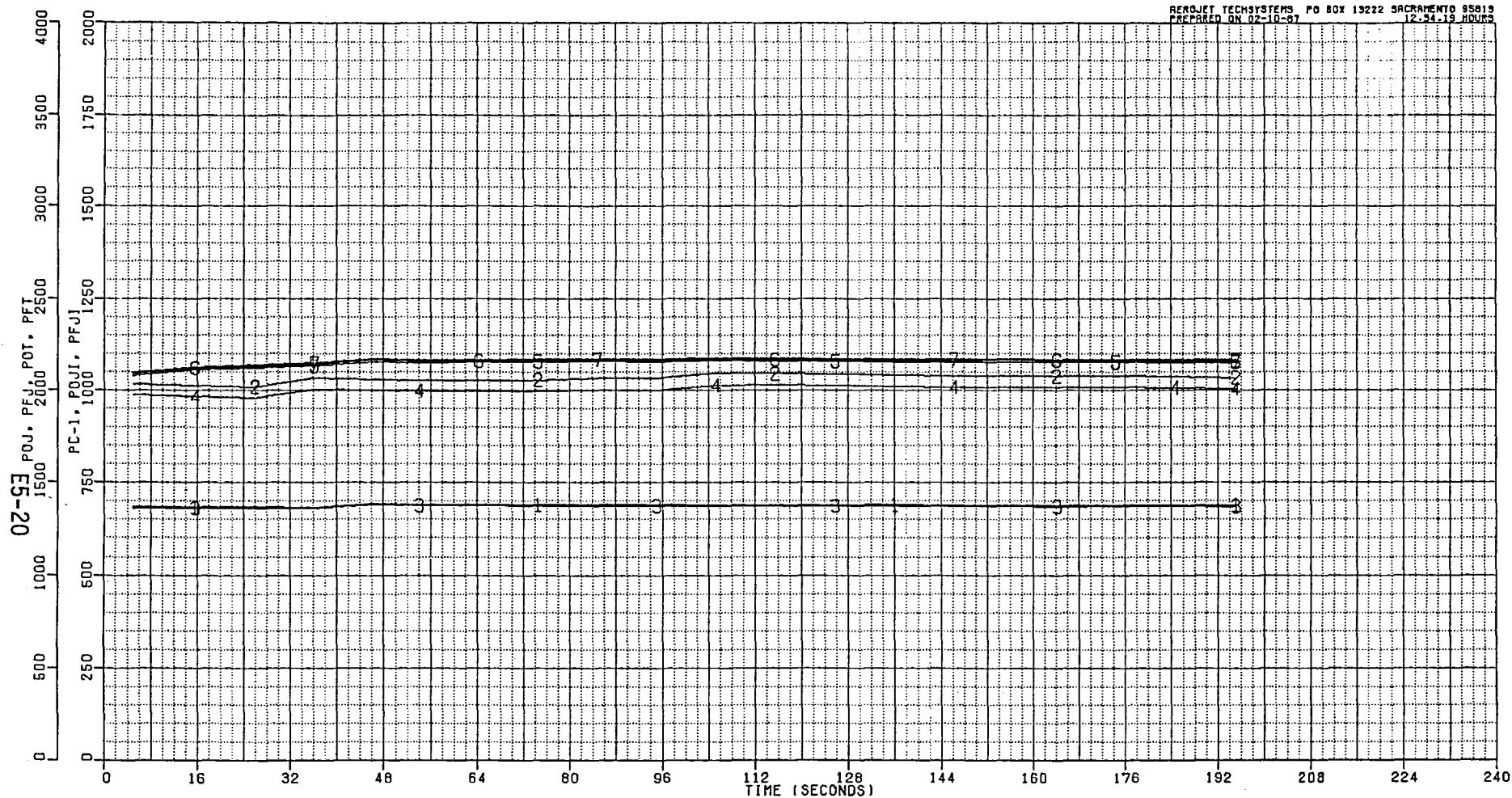
TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-139  
 PRESSURE MEASUREMENTS  
 TEST DATE 07-30-86 1300 HOURS



1 TCR-1 DEG F  
2 TCR-2 DEG F  
3 TCR-3 DEG F  
4 TCR-4 DEG F  
5 TCR-5 DEG F  
6 TCR-6 DEG F

AEROJET  
@TechSystems  
COMPANY

GAS TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-139  
PRESSURE MEASUREMENTS  
TEST DATE 07-30-86 1300 HOURS

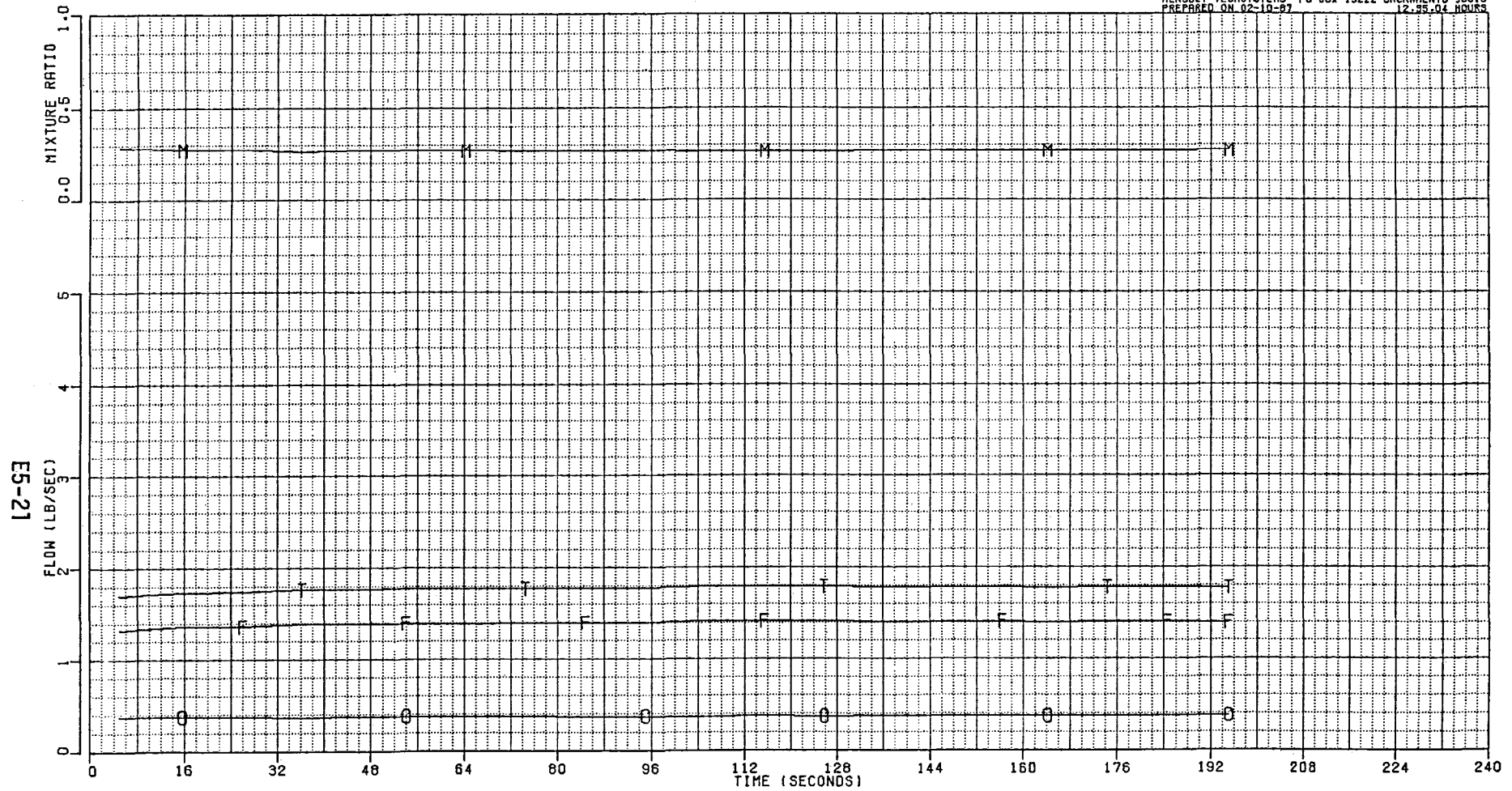


1 POT PSIA  
2 PFT PSIA  
3 POJ PSIA  
4 PFJ PSIA  
5 PC-1 PSIA  
6 POJI PSIA  
7 PFJI PSIA

AEROJET  
**TechSystems**  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-229-A6-140

TEST DATE 07-30-86 1414 HOURS



F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-140

TEST DATE 07-30-86 1414 HOURS

AEROJET  
**TechSystems**  
 COMPANY

[illegible]

|   |        |        |
|---|--------|--------|
| 1 | DPOJ   | PSI    |
| 2 | DPFJ   | PSI    |
| 3 | KWOJ   |        |
| 4 | KWFJ   |        |
| 5 | CSTRPB | FT/SEC |
| 6 | CSTAR  | FT/SEC |

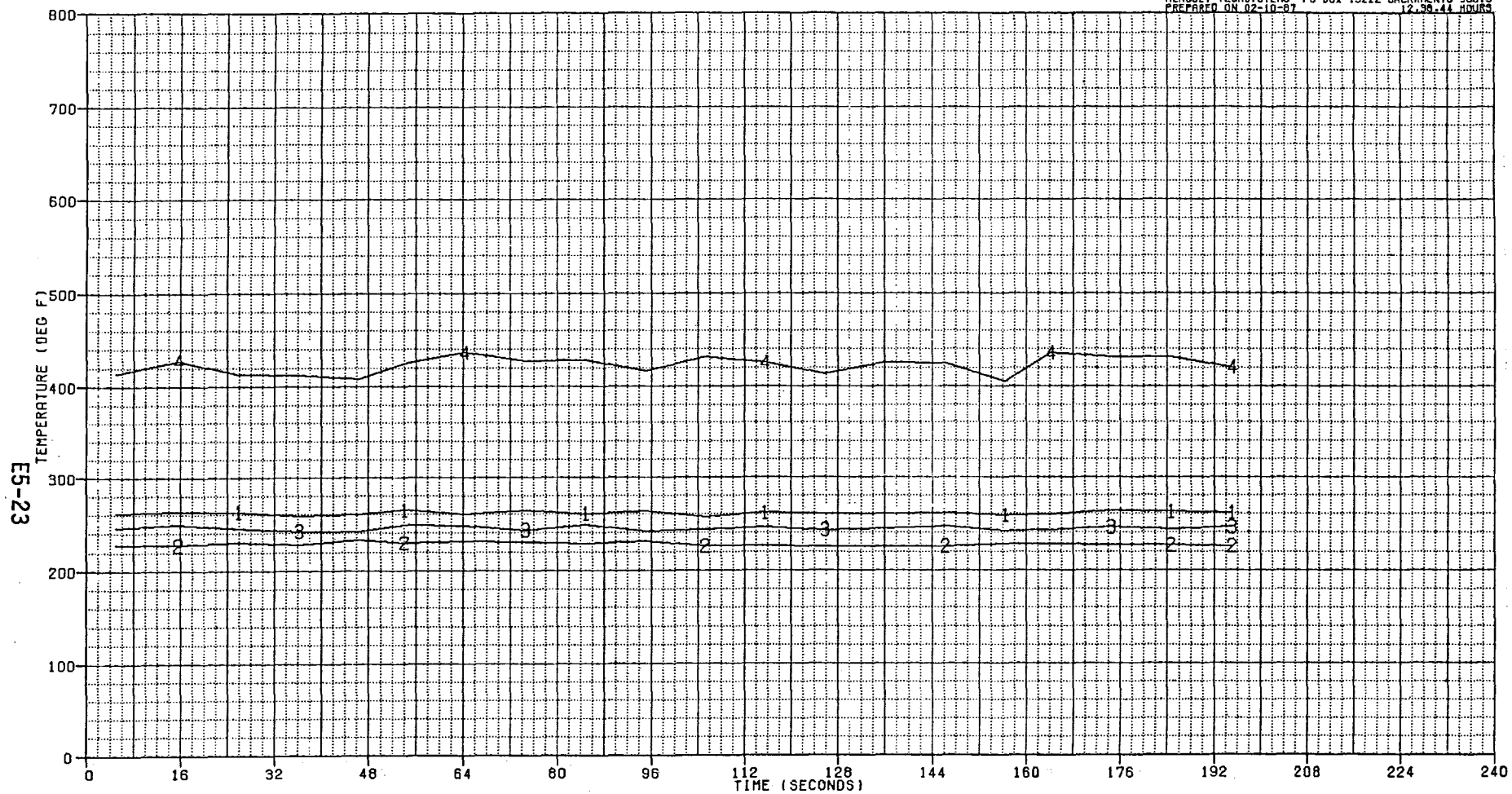
INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-229-A6-140

TEST DATE 07-30-86 1414 HOURS



AEROJET  
Tech Systems  
COMPANY



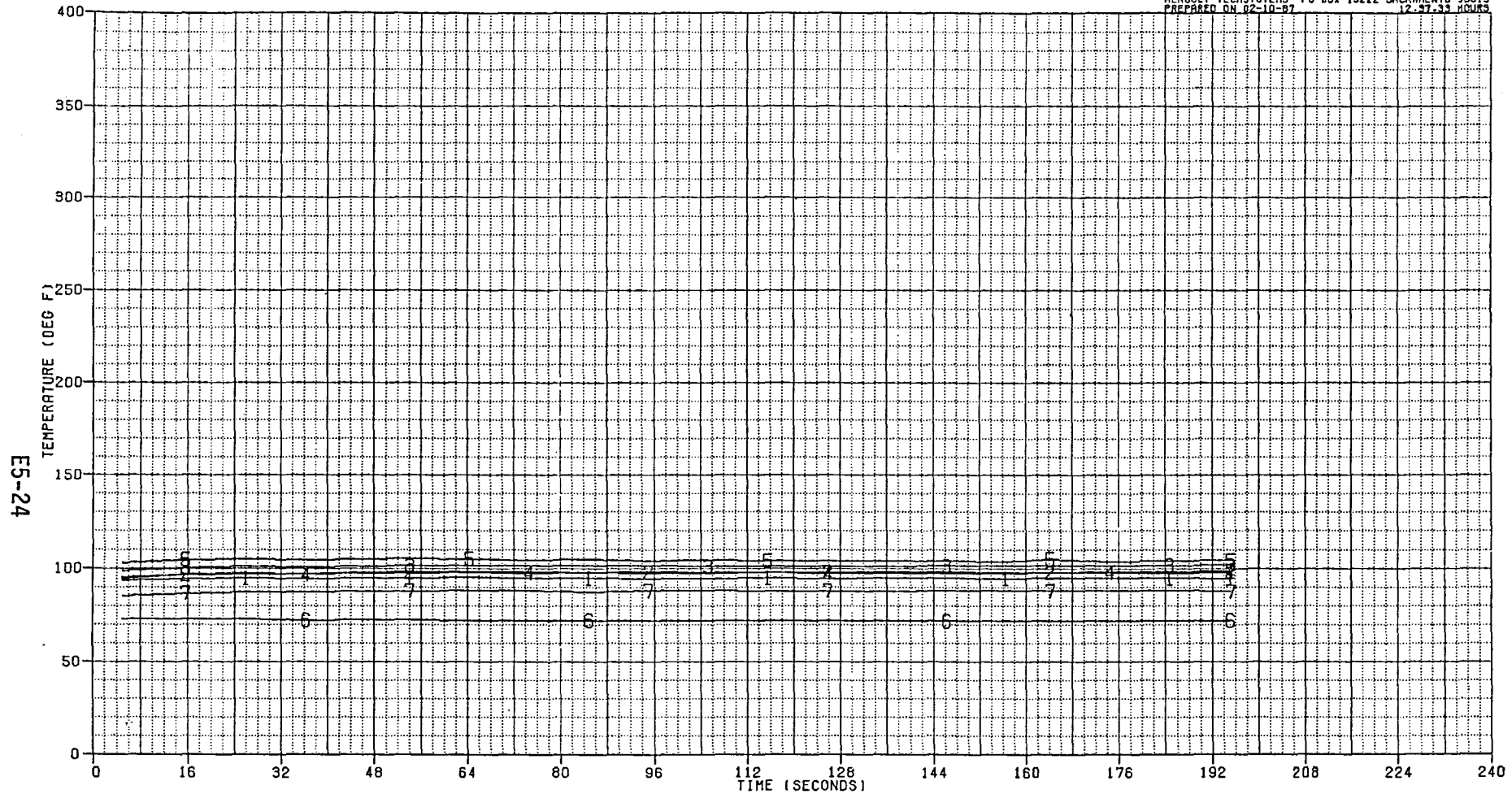


- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-140  
 BARREL DATA  
 TEST DATE 07-30-86 1414 HOURS





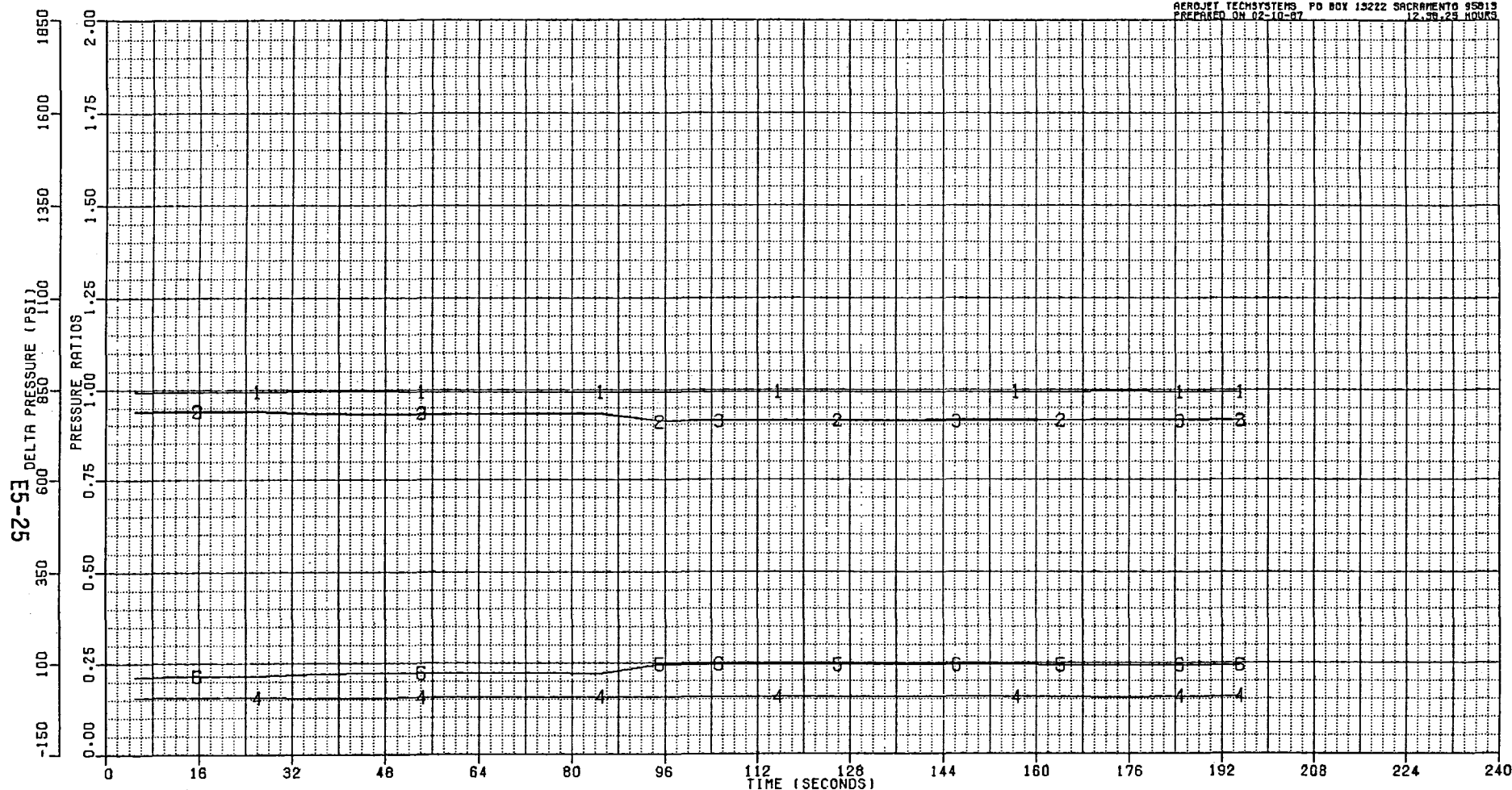


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

AEROJET  
@TechSystems  
COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-140

TEST DATE 07-30-86 1414 HOURS

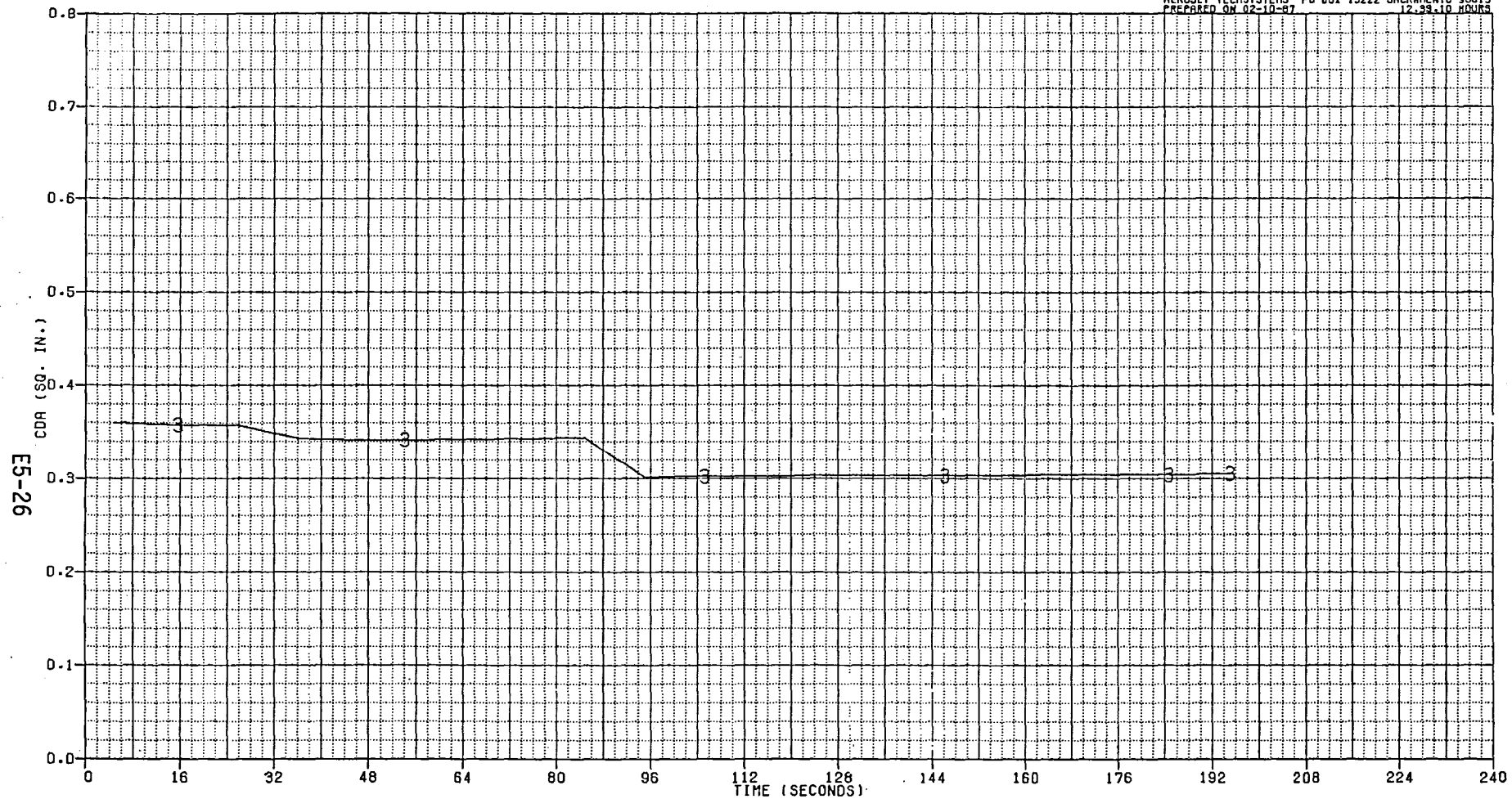


AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-10-87 12:38:25 HOURS

- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR PSI
- 5 DPTS-C PSI
- 6 DPTS PSI



TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-140  
 CHAMBER PRESSURE DROPS AND RATIOS  
 TEST DATE 07-30-86 1414 HOURS

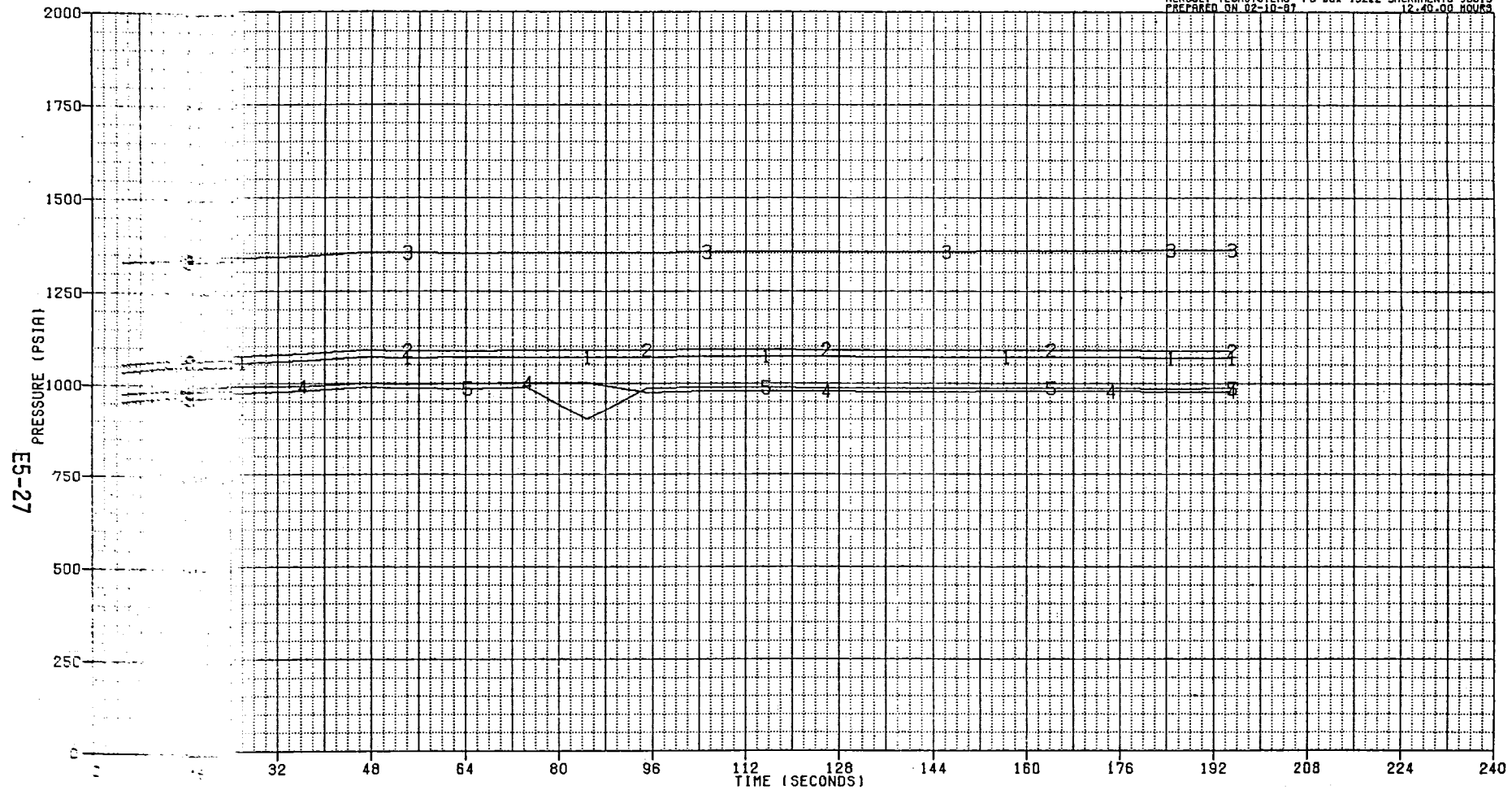


E5-26

1 NA1 SQ. IN.  
 2 NA2 SQ. IN.  
 3 CDA

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-140  
 NOZZLE AREA CHANGE  
 TEST DATE 07-30-86 1414 HOURS

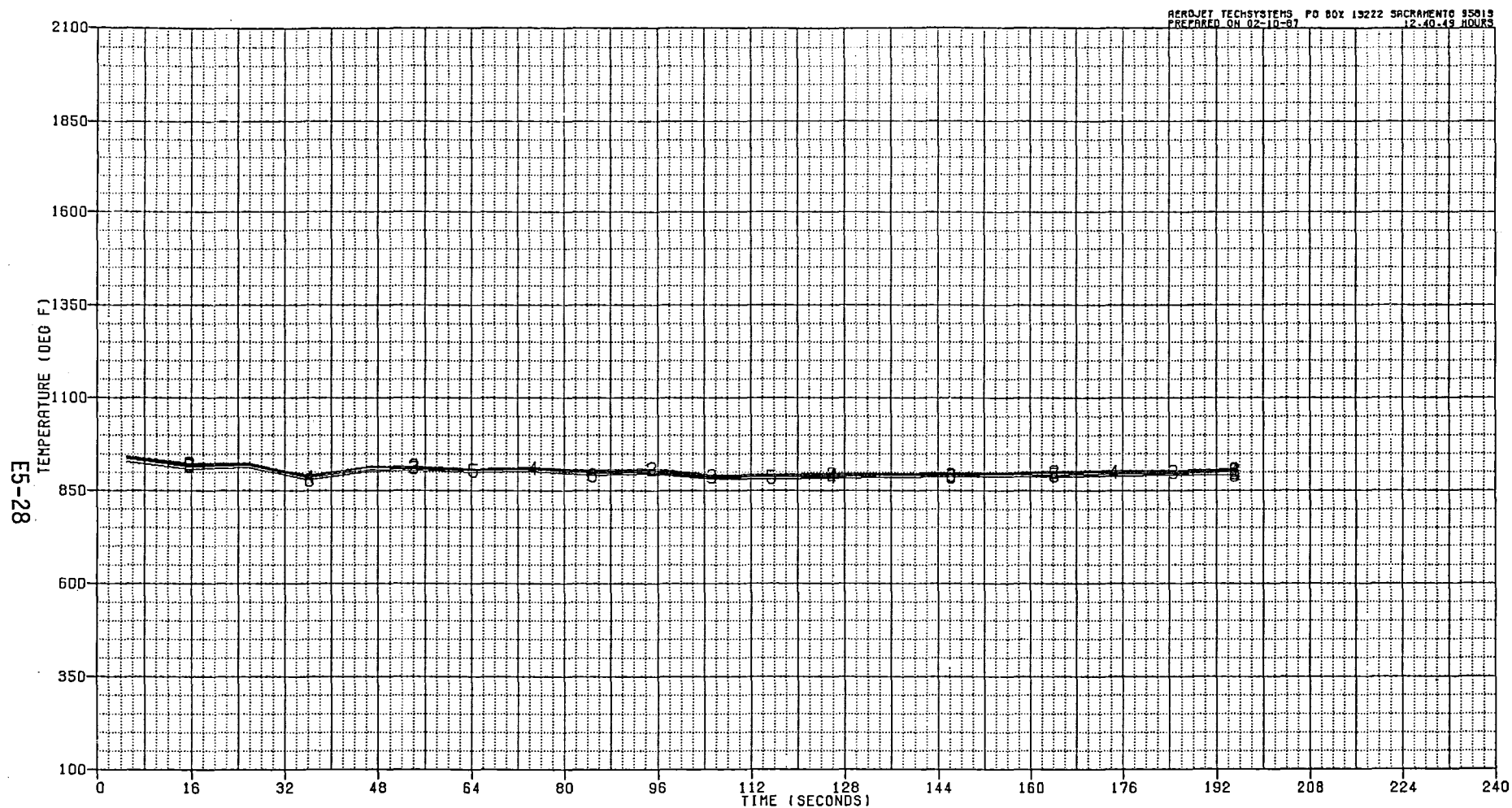




TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-140  
 PRESSURE MEASUREMENTS  
 TEST DATE 07-30-86 1414 HOURS

AEROJET  
**@TechSystems**  
 COMPANY

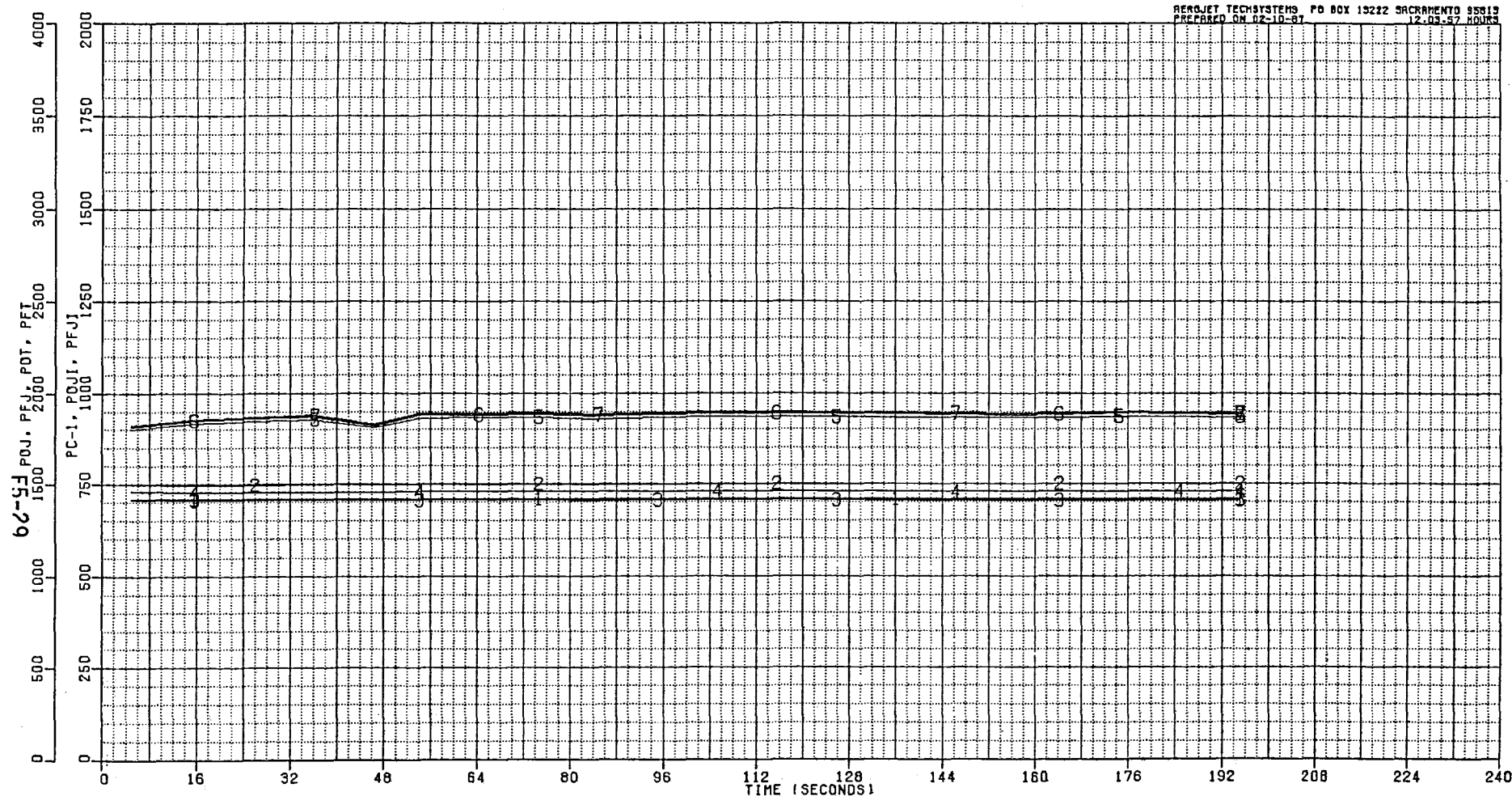
1 00:00:00  
 2 00:00:00  
 3 00:00:00  
 4 00:00:00  
 5 00:00:00



1 TCR-1 DEG F  
2 TCR-2 DEG F  
3 TCR-3 DEG F  
4 TCR-4 DEG F  
5 TCR-5 DEG F  
6 TCR-6 DEG F

AEROJET  
TechSystems  
COMPANY

GAS TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-140  
PRESSURE MEASUREMENTS  
TEST DATE 07-30-86 1414 HOURS



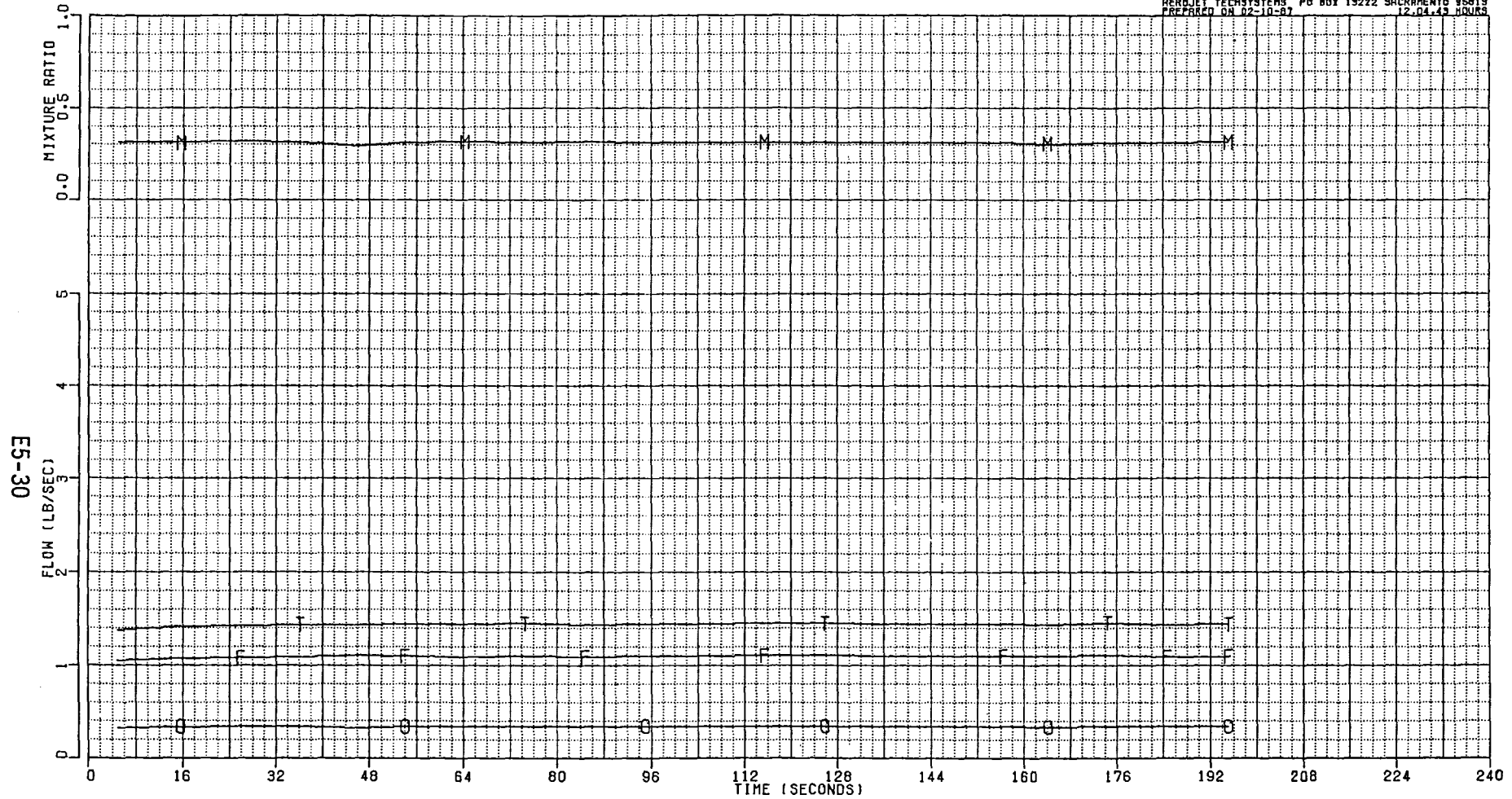
|        |      |
|--------|------|
| 1 PQT  | PSIA |
| 2 PFT  | PSIA |
| 3 PQJ  | PSIA |
| 4 PFJ  | PSIA |
| 5 PC-1 | PSIA |
| 6 PQJI | PSIA |
| 7 PFJI | PSIA |

AEROJET  
  
 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-229-A6-141

TEST DATE 07-30-86 1503 HOURS

AEROJET TECHSYSTEMS PO BOX 15222 SACRAMENTO 95815  
 PREPARED ON 02-10-87 12:04:43 HOURS



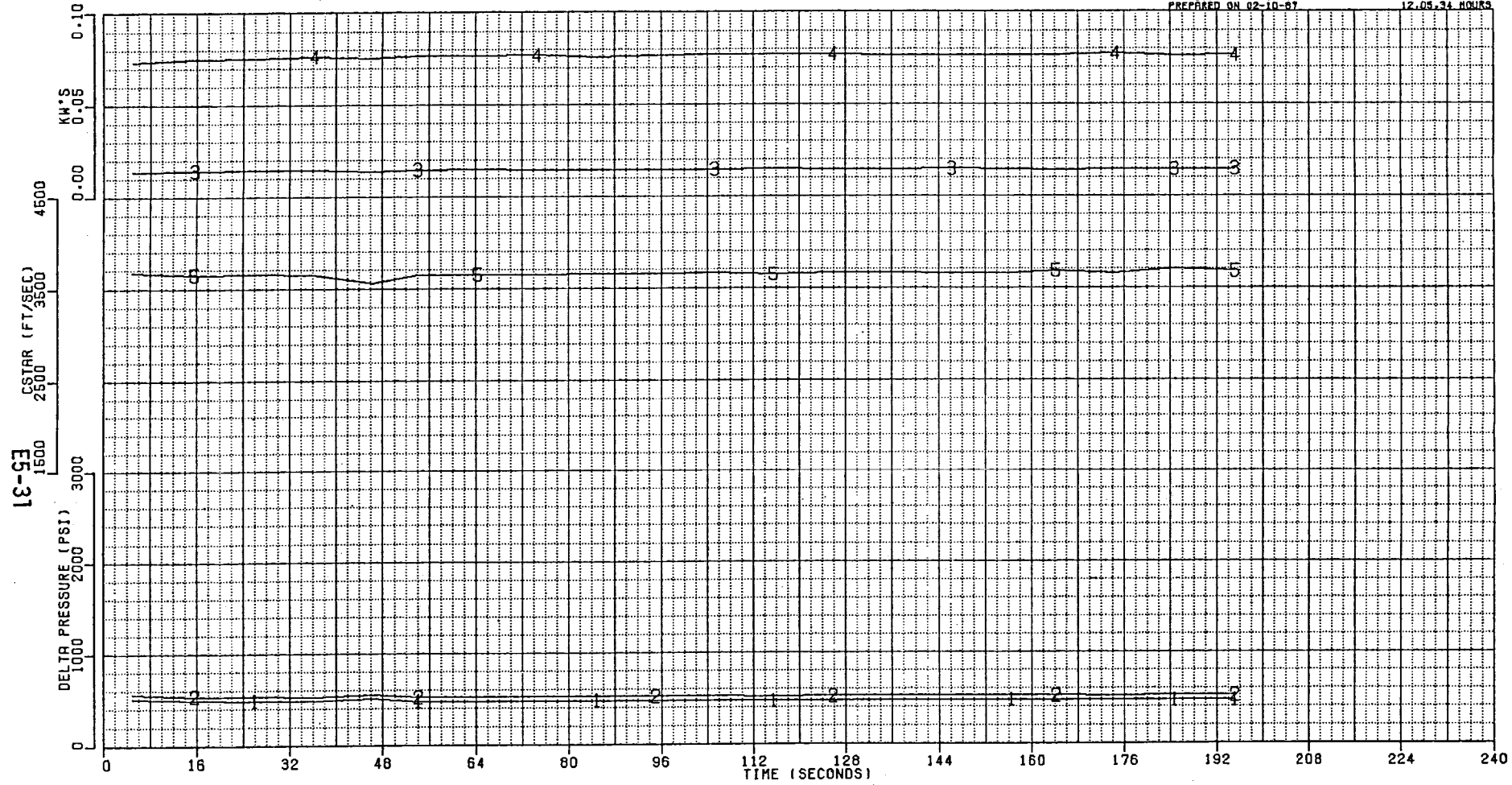
F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-141

TEST DATE 07-30-86 1503 HOURS

AEROJET  
**TechSystems**  
 COMPANY





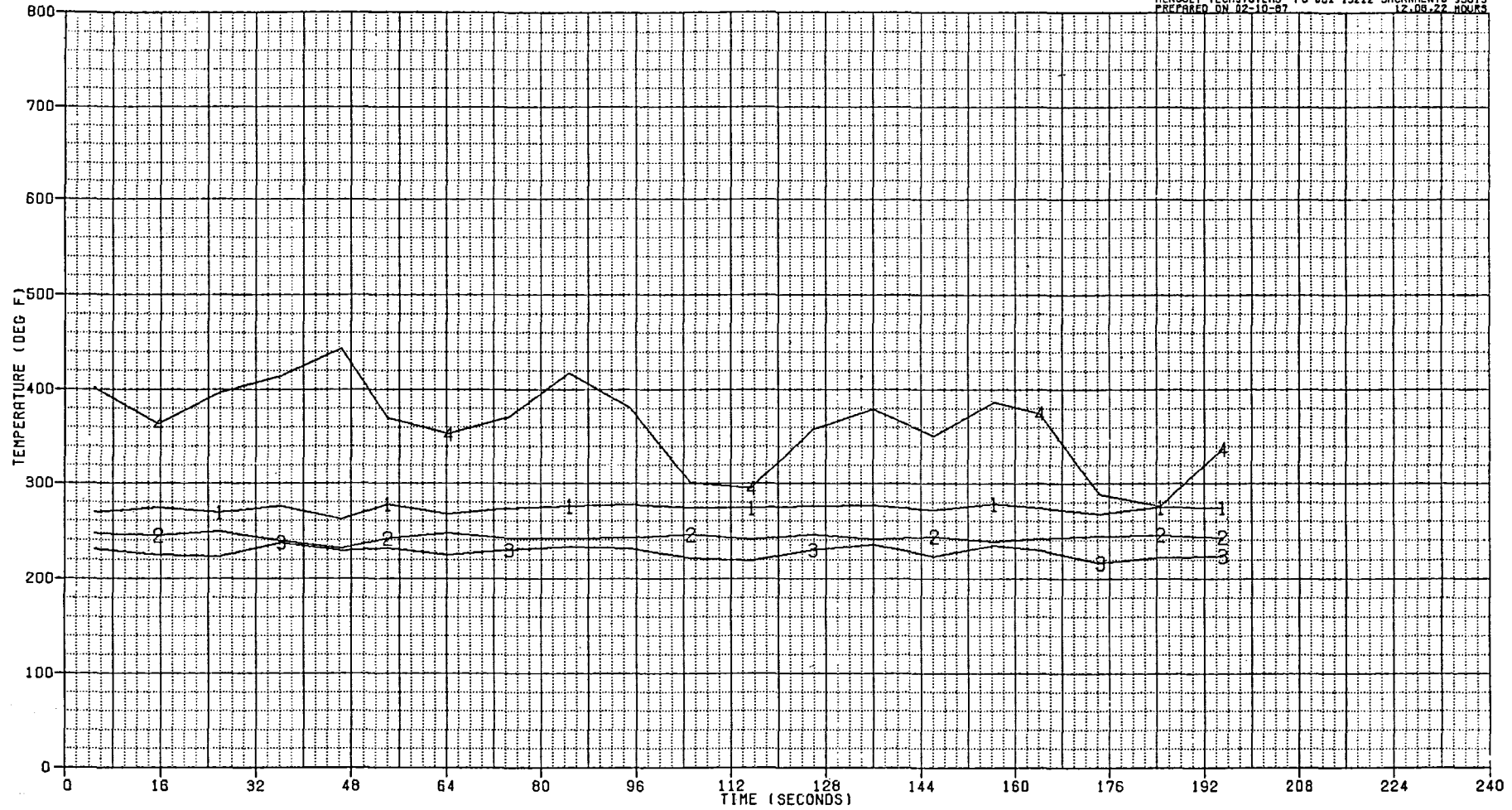
- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ PSI
- 4 KWFJ FT/SEC
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-229-A6-141  
 TEST DATE 07-30-86 1503 HOURS





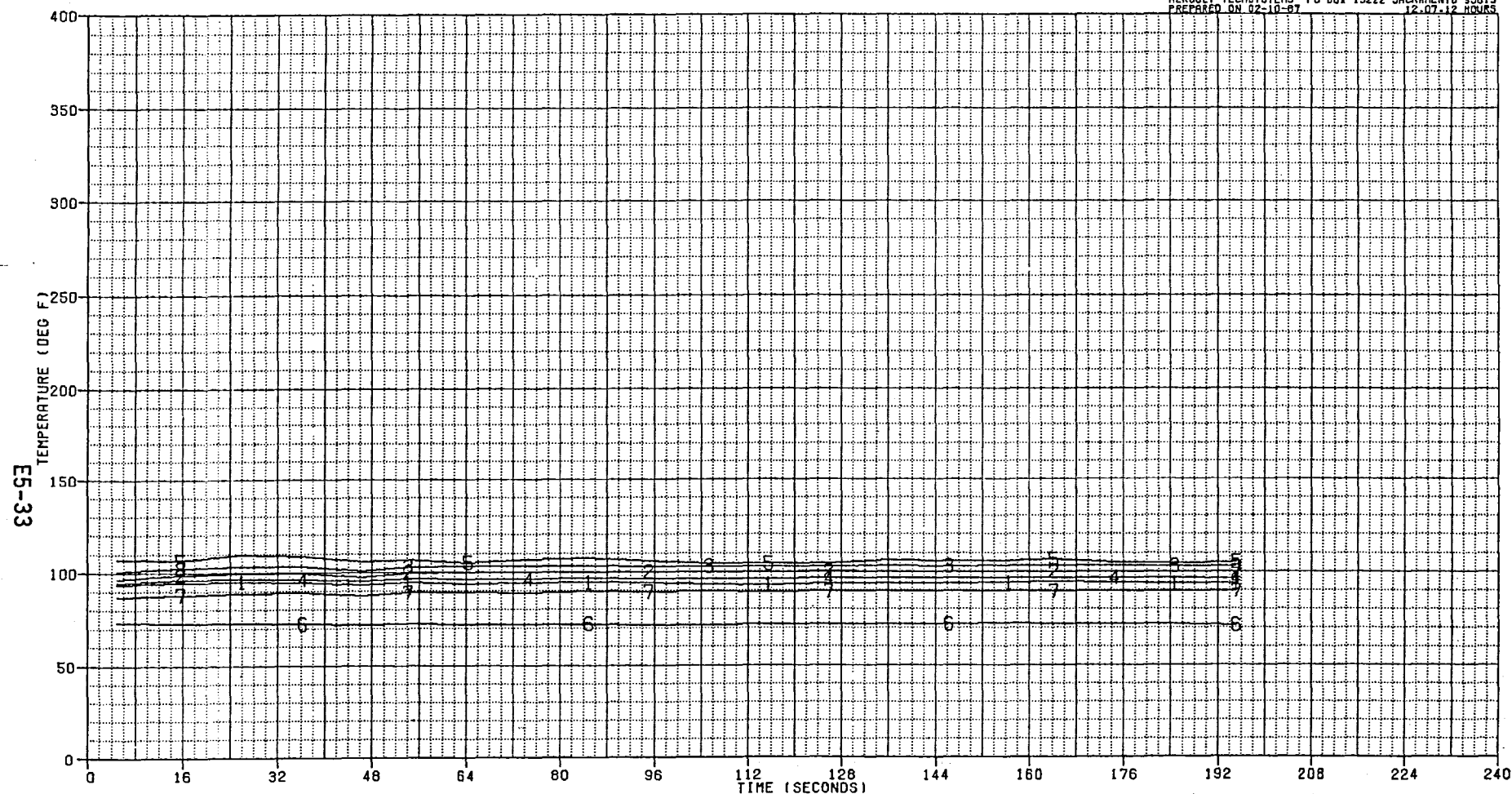
E5-32



1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-141  
 BARREL DATA  
 TEST DATE 07-30-86 1503 HOURS

AEROJET  
**TechSystems**  
 COMPANY



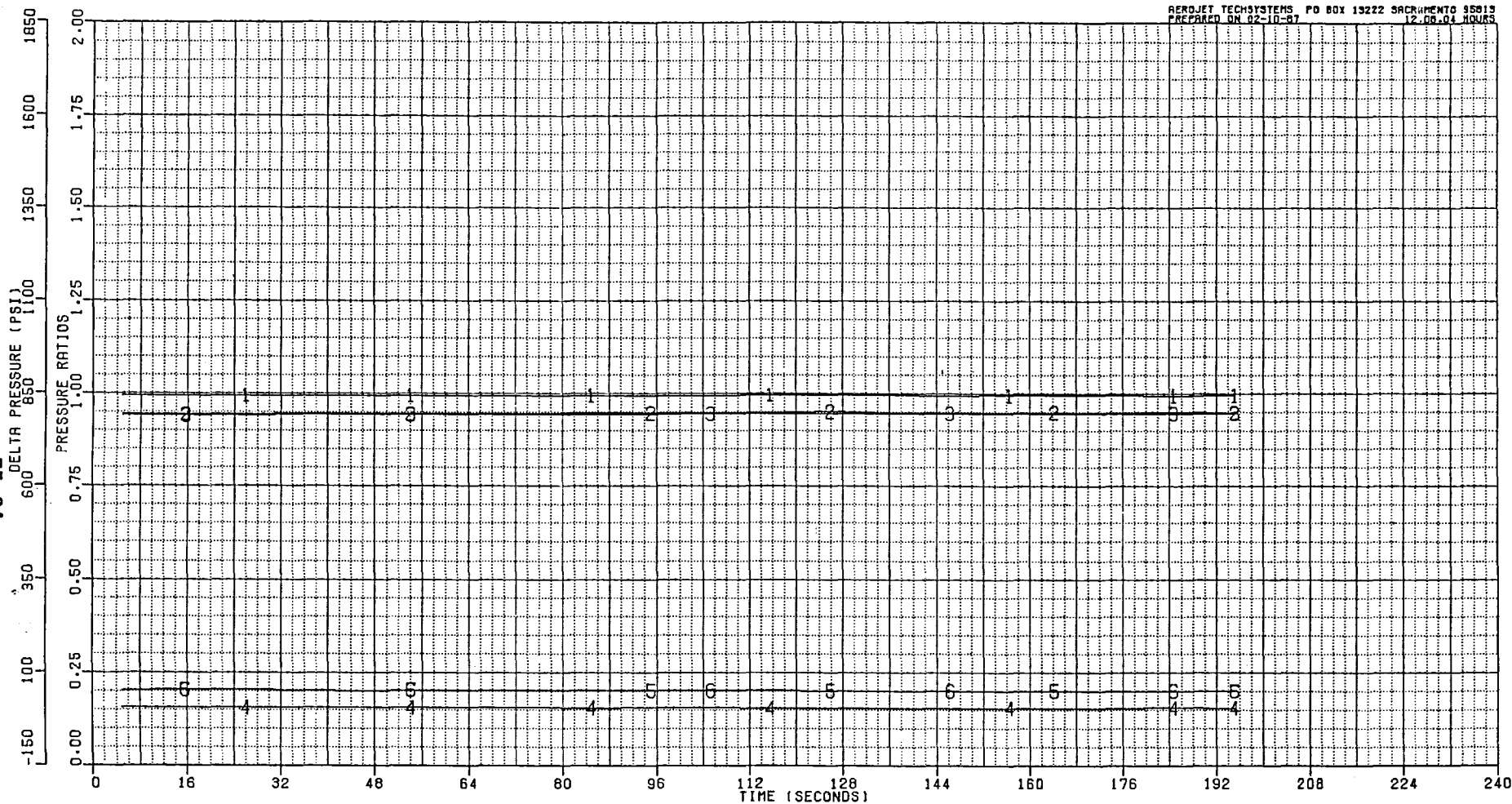
- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F



COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-141

TEST DATE 07-30-86 1503 HOURS

E5-34



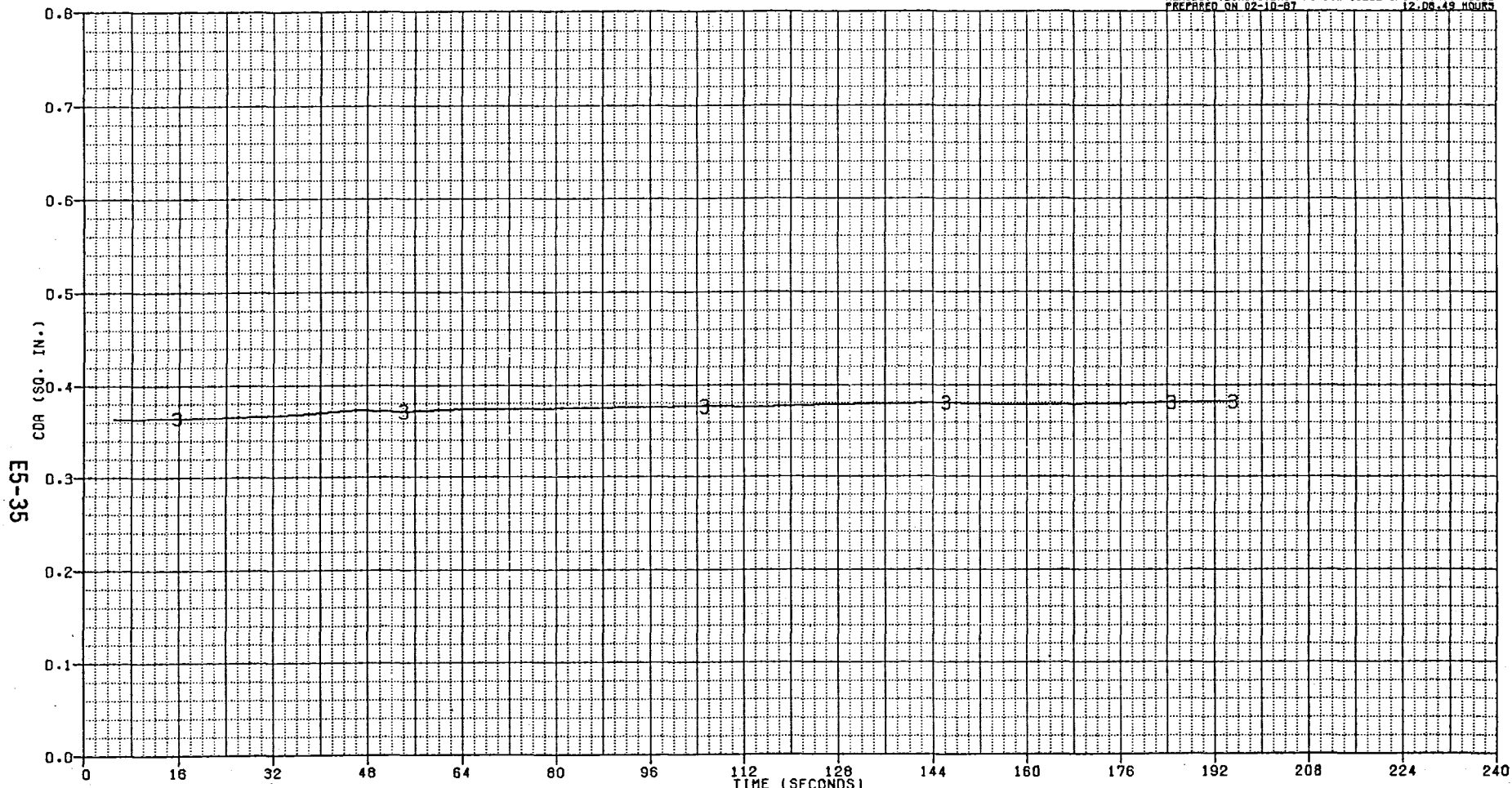
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-10-87 12:05:01 HOURS

- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTR-C
- 6 DPTR

PSI  
PSI  
PSI

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-141  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 07-30-86 1503 HOURS

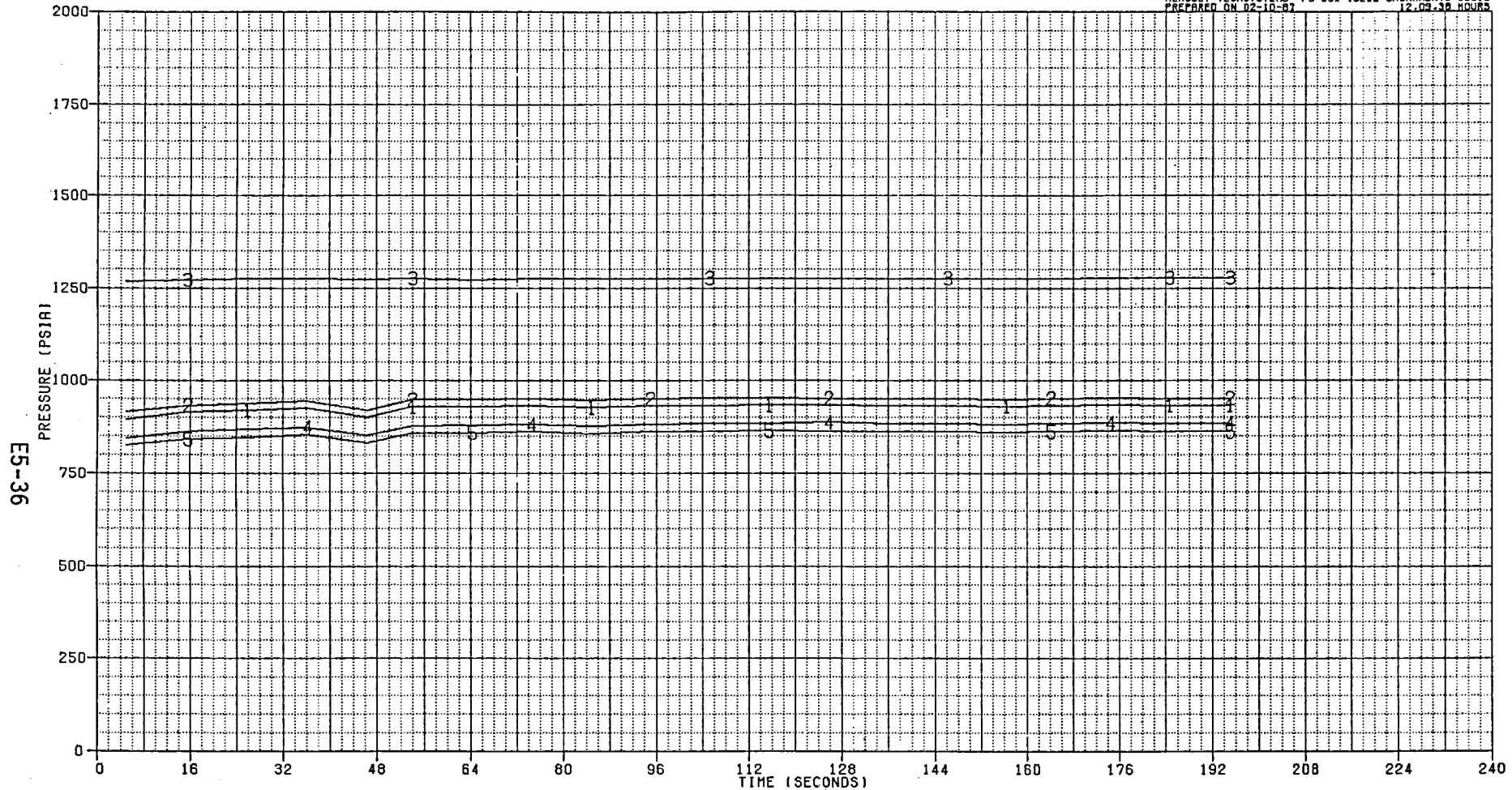


ES-35

- 1 NA1 50.IN.
- 2 NA2 50.IN.
- 3 CDA

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-141  
NOZZLE AREA CHANGE  
TEST DATE 07-30-86 1503 HOURS

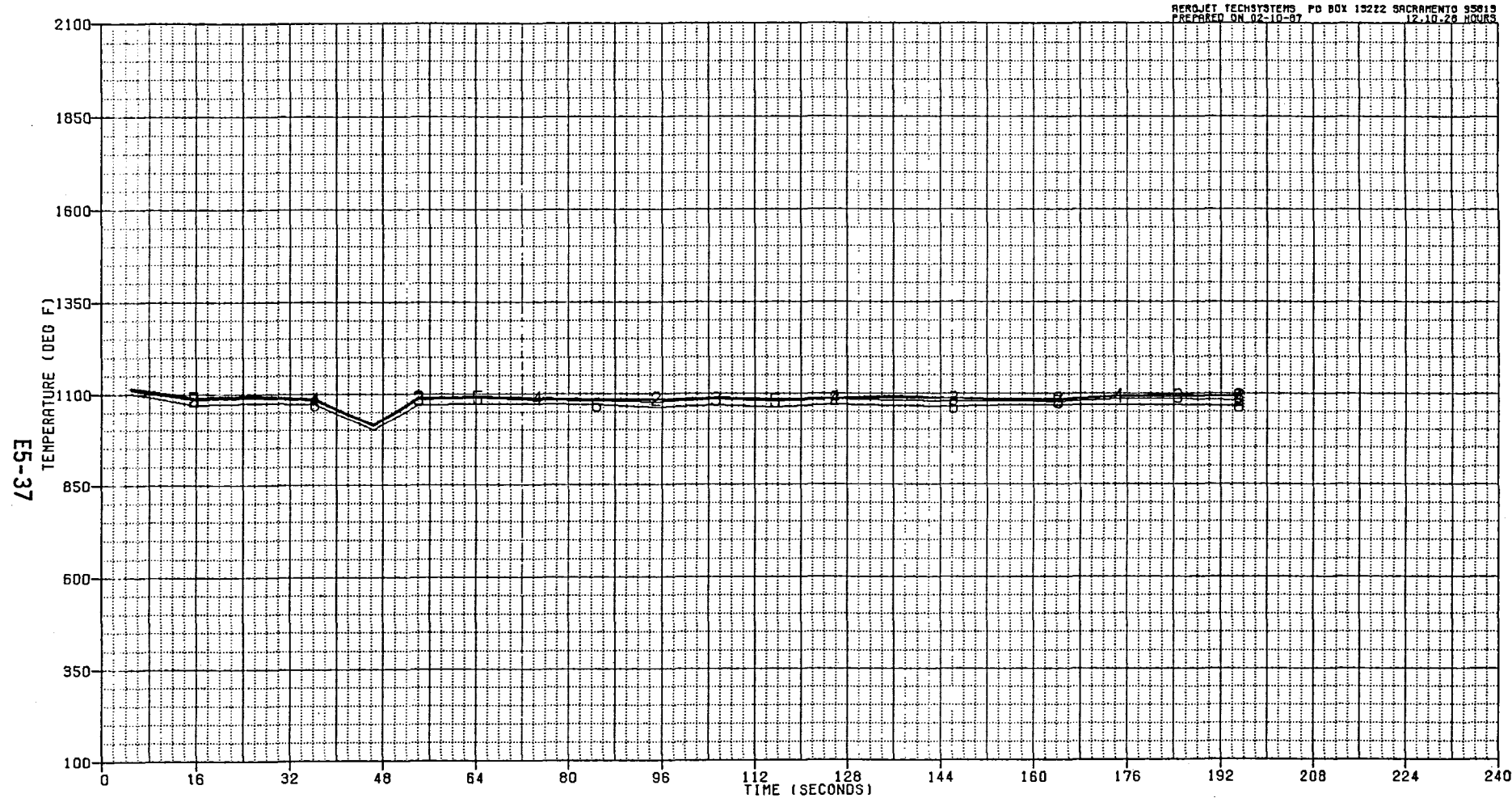




1 PCTSU PSIA  
 2 PCTSU-2 PSIA  
 3 PCTSU-3 PSIA  
 4 PCTSD PSIA  
 5 PCTSD-2 PSIA

AEROJET  
**TechSystems**  
 COMPANY

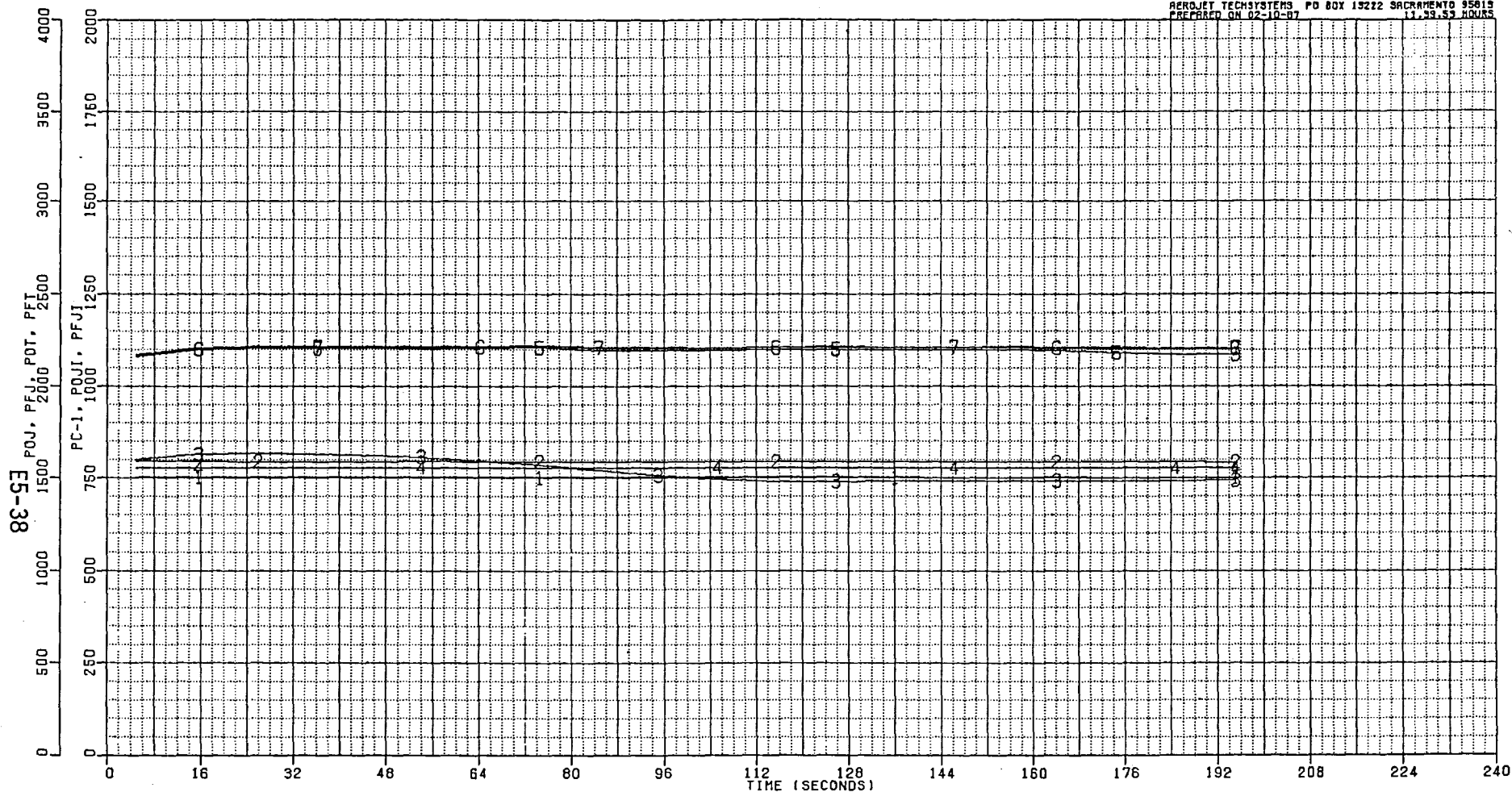
TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-141  
 PRESSURE MEASUREMENTS  
 TEST DATE 07-30-86 1503 HOURS



1 TCR-1 DEG F  
2 TCR-2 DEG F  
3 TCR-3 DEG F  
4 TCR-4 DEG F  
5 TCR-5 DEG F  
6 TCR-6 DEG F

AEROJET  
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COMPANY

GAS TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-141  
PRESSURE MEASUREMENTS  
TEST DATE 07-30-86 1503 HOURS



AEROJET TECHSYSTEMS PO BOX 15222 SACRAMENTO 95815  
PREPARED ON 02-10-87 11:39:53 HOURS

1 POT PSIA  
2 PFT PSIA  
3 POJ PSIA  
4 PFJ PSIA  
5 PC-1 PSIA  
6 POJI PSIA  
7 PFJI PSIA

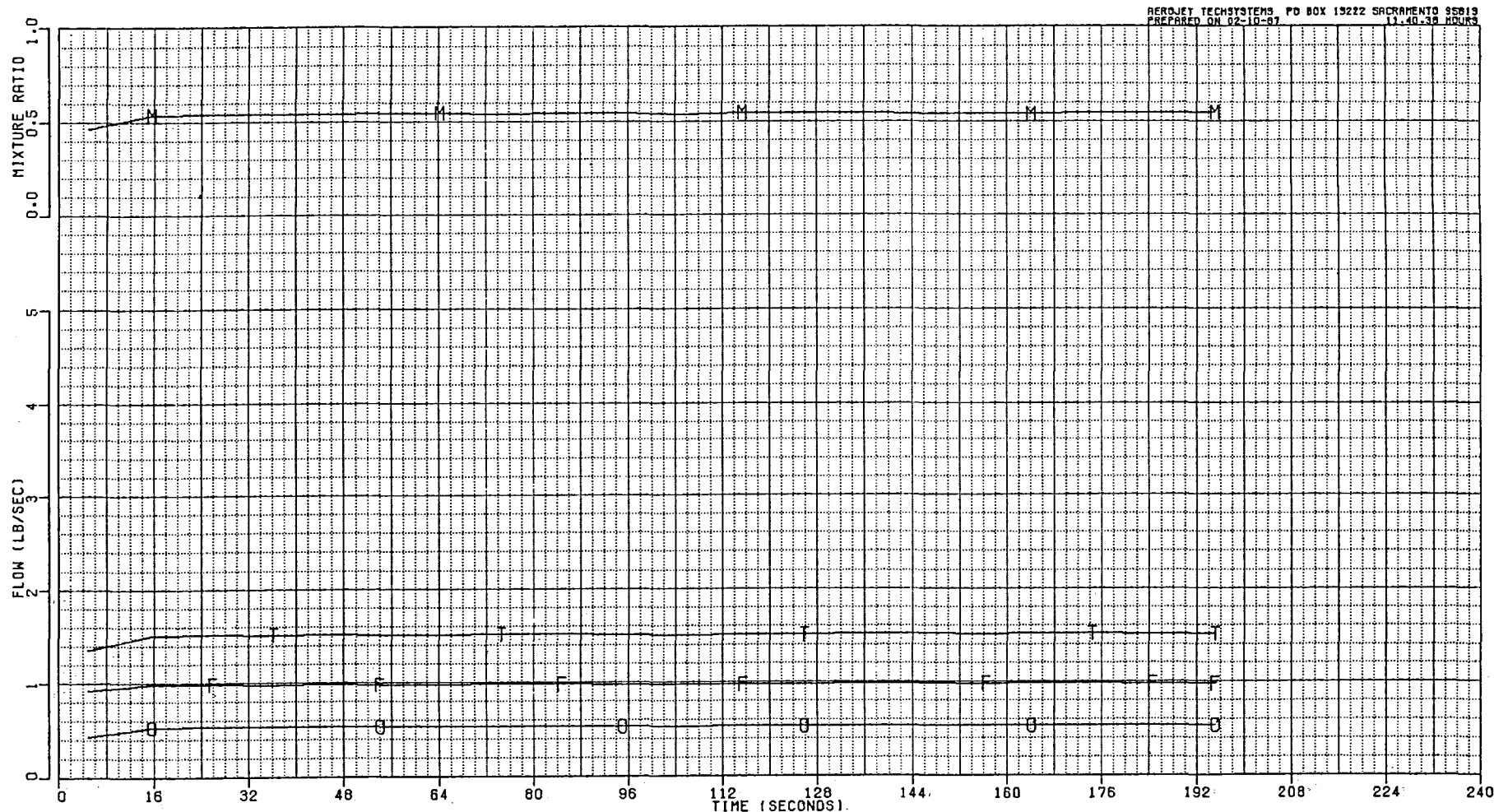
AEROJET  
@TechSystems  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-229-A6-143

TEST DATE 08-19-86 1331 HOURS



68-39



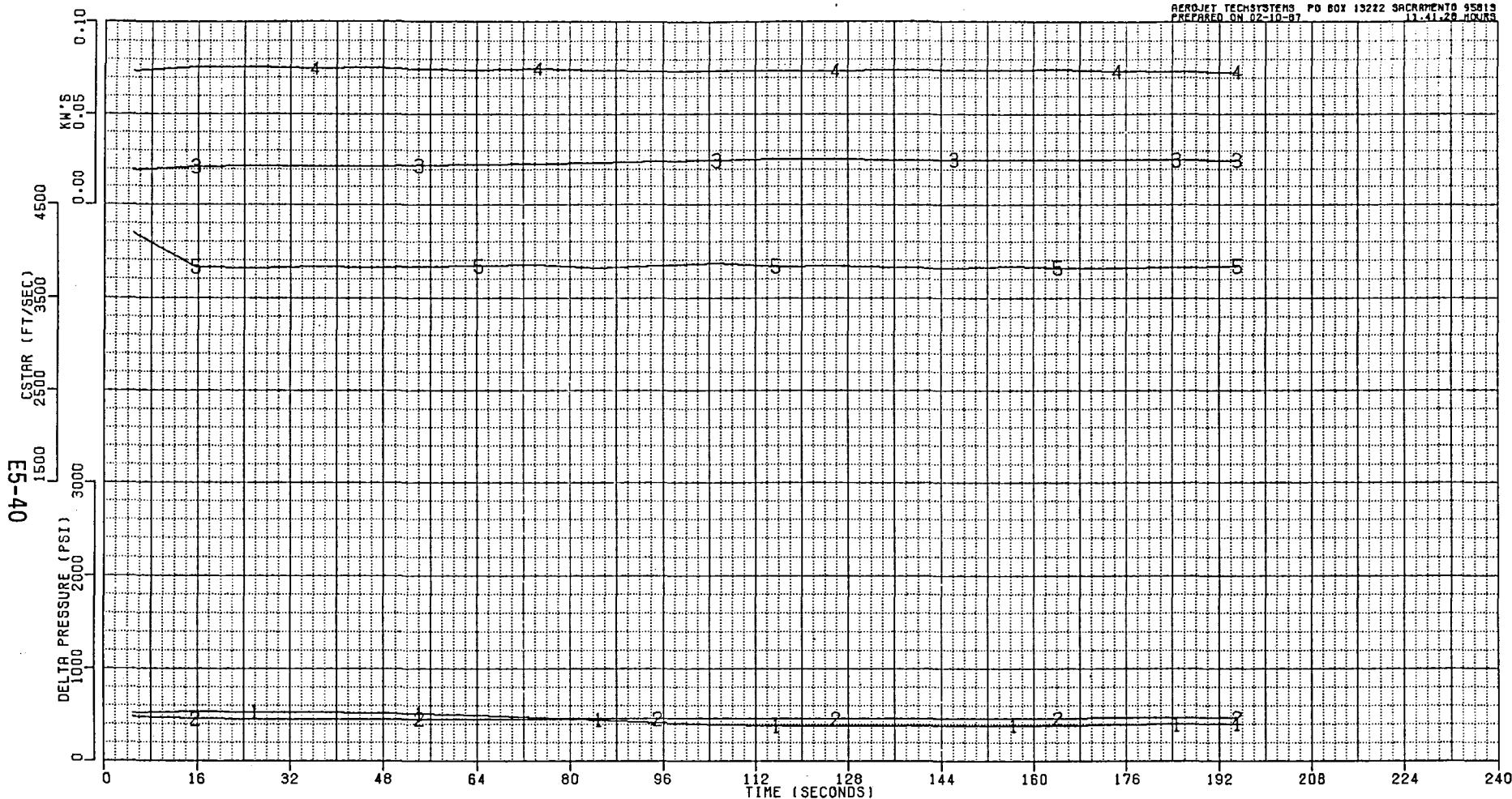
F WF LBS/SEC  
O WOX LBS/SEC  
T WTOT LBS/SEC  
M MR

INJECTOR FLOW VS TIME  
TEST NO. 2427-229-A6-143

TEST DATE 08-19-86 1331 HOURS

AEROJET  
TechSystems  
COMPANY

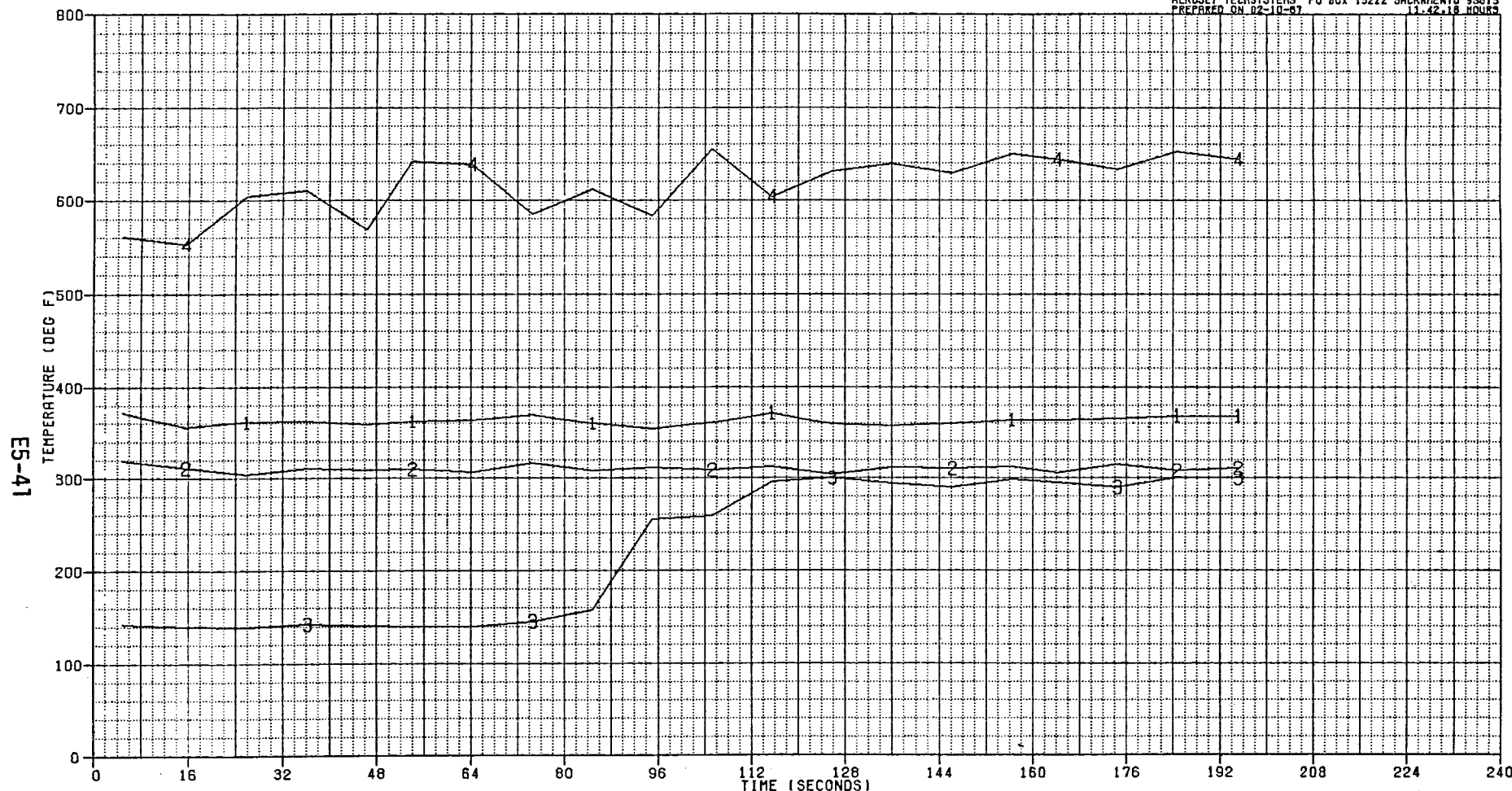




# INJECTOR CALCULATIONS VS TIME TEST NO. 2427-229-A6-143

TEST DATE 08-19-86 1331 HOURS



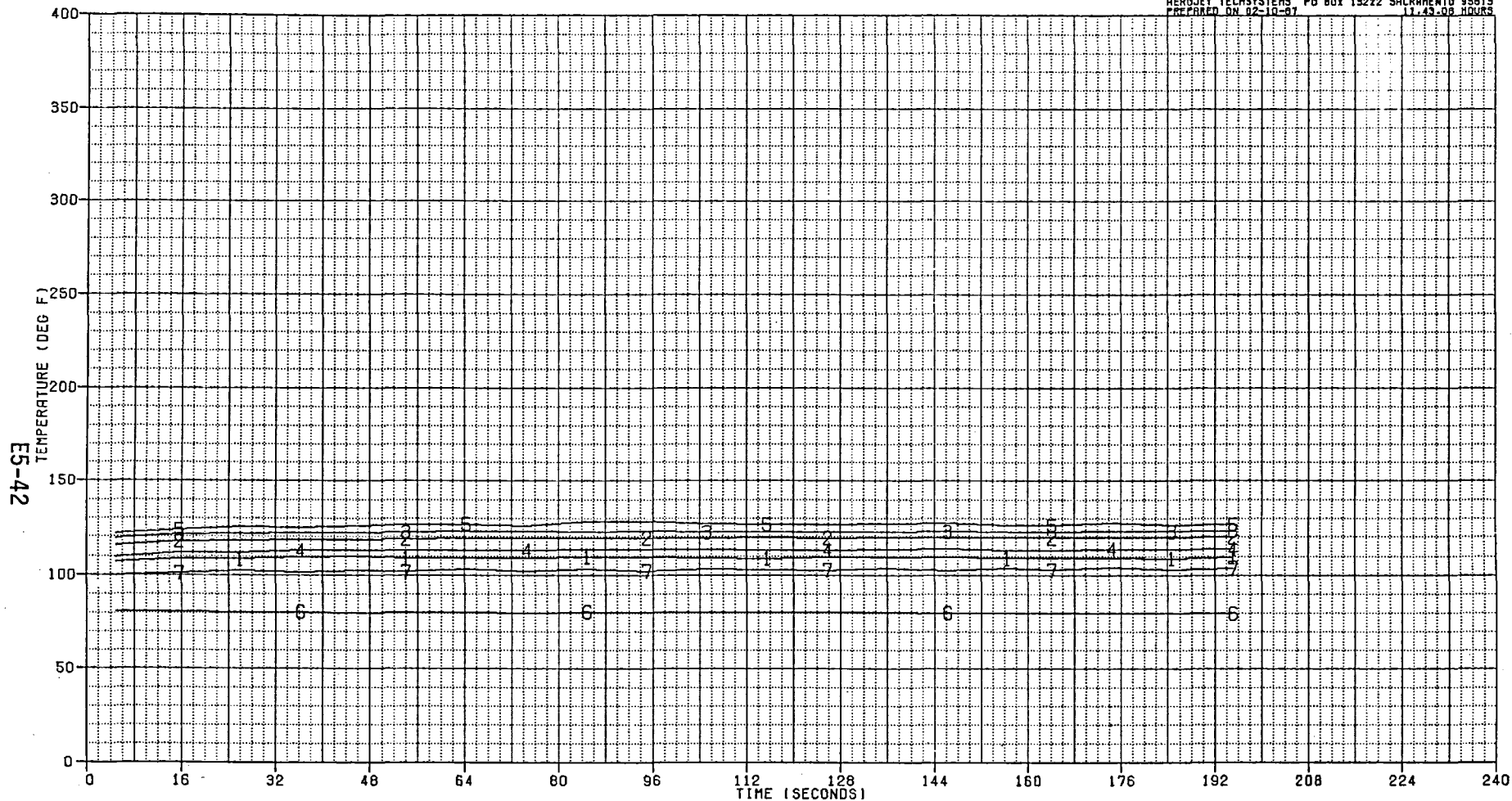


1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

AEROJET  
**TechSystems**  
 COMPANY

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-143  
 BARREL DATA  
 TEST DATE 08-19-86 1331 HOURS

AEROJET TECHSYSTEMS, PO BOX 15222 SACRAMENTO 95813  
 PREPARED ON 02-10-87 17.43.08 HOURS

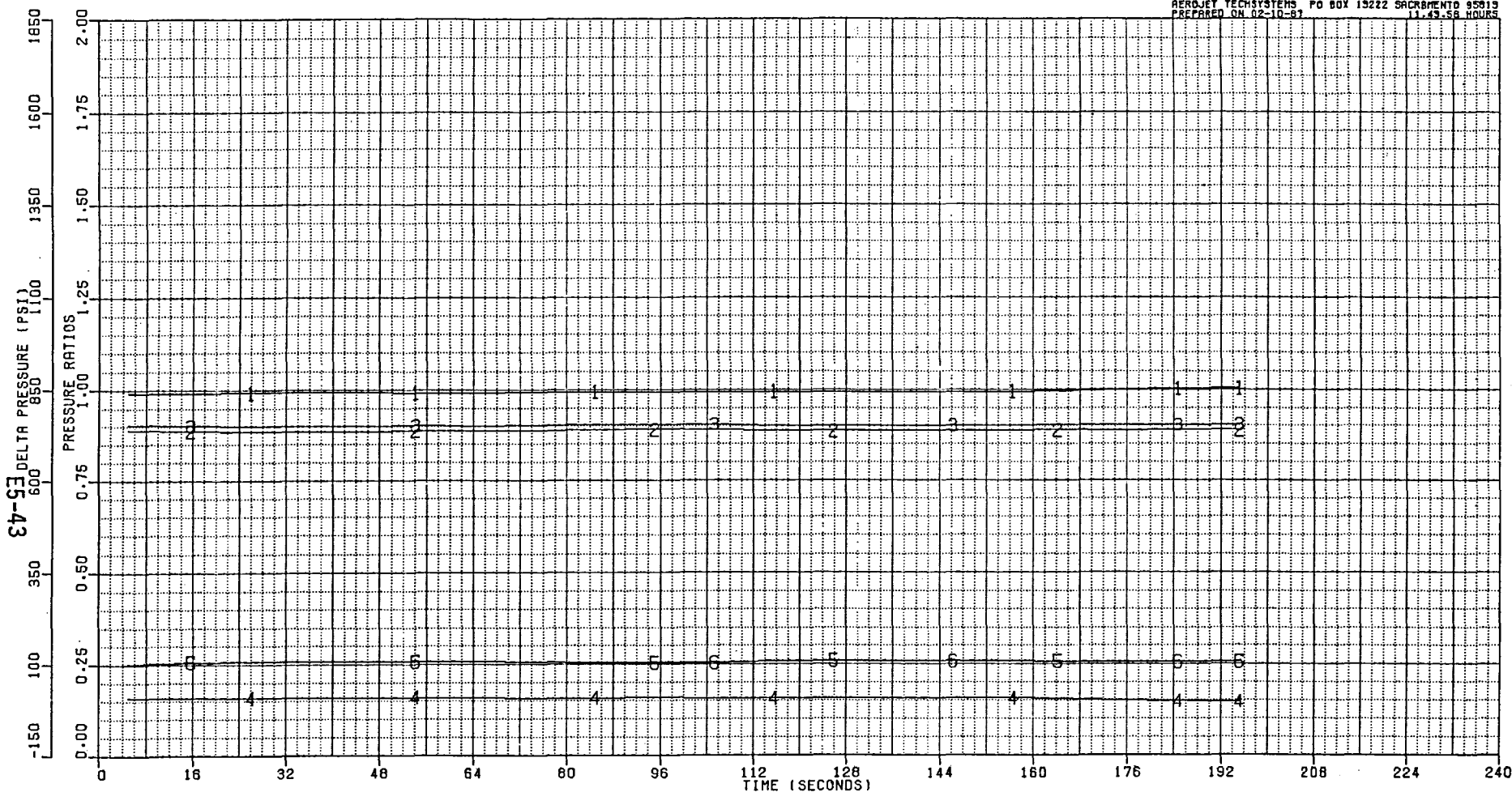


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-143

TEST DATE 08-19-86 1331 HOURS

AEROJET  
**TechSystems**  
 COMPANY

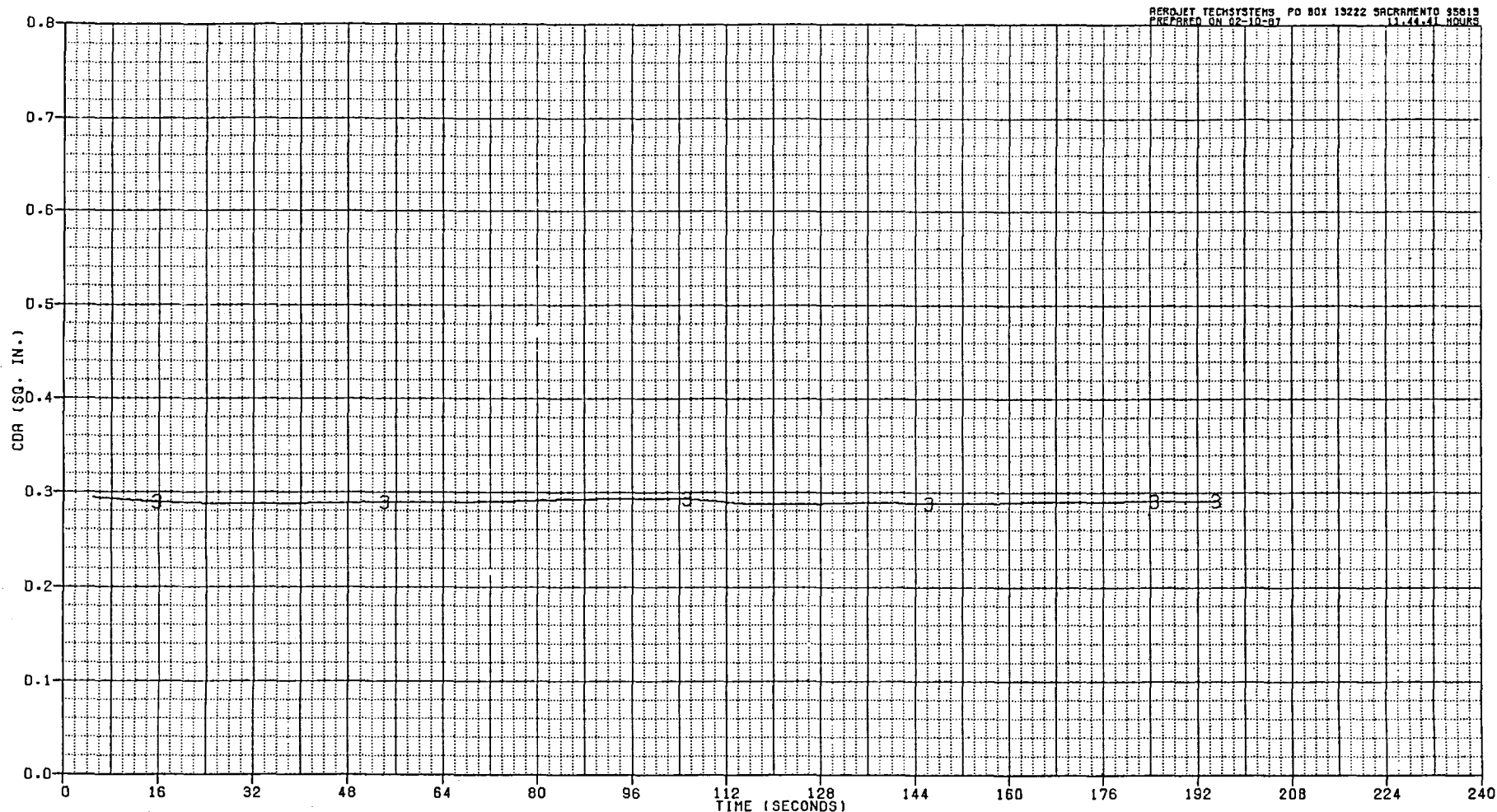


1 PRTR  
2 PRTS  
3 PRTS CORR  
4 DPTR PSI  
5 DPTS-C PSI  
6 DPTS PSI

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-143  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 08-19-86 1331 HOURS

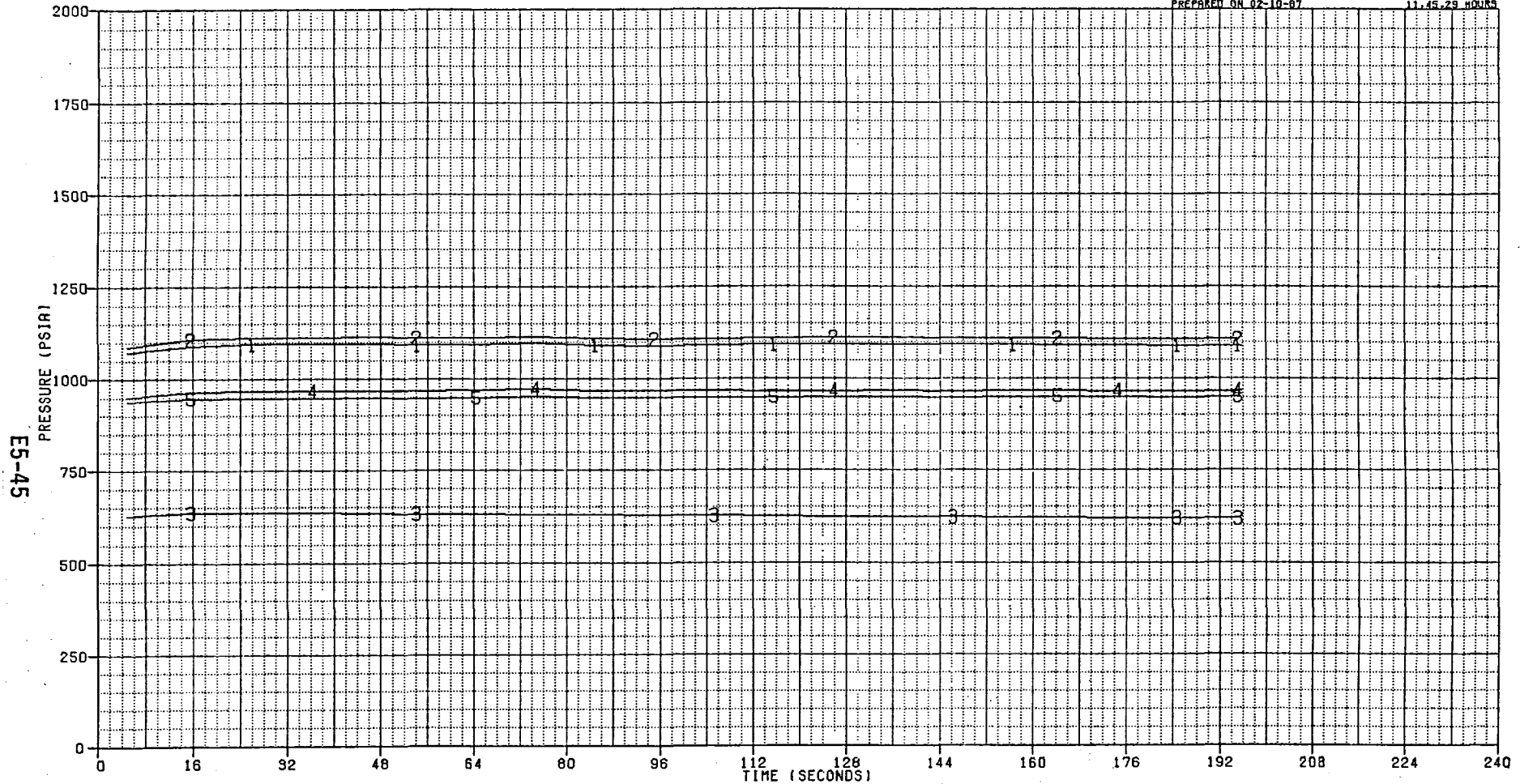
E5-44



1 NA1 SQ. IN.  
2 NA2 SQ. IN.  
3 CDR

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-143  
NOZZLE AREA CHANGE  
TEST DATE 08-19-86 1331 HOURS

AEROJET  
TechSystems  
COMPANY

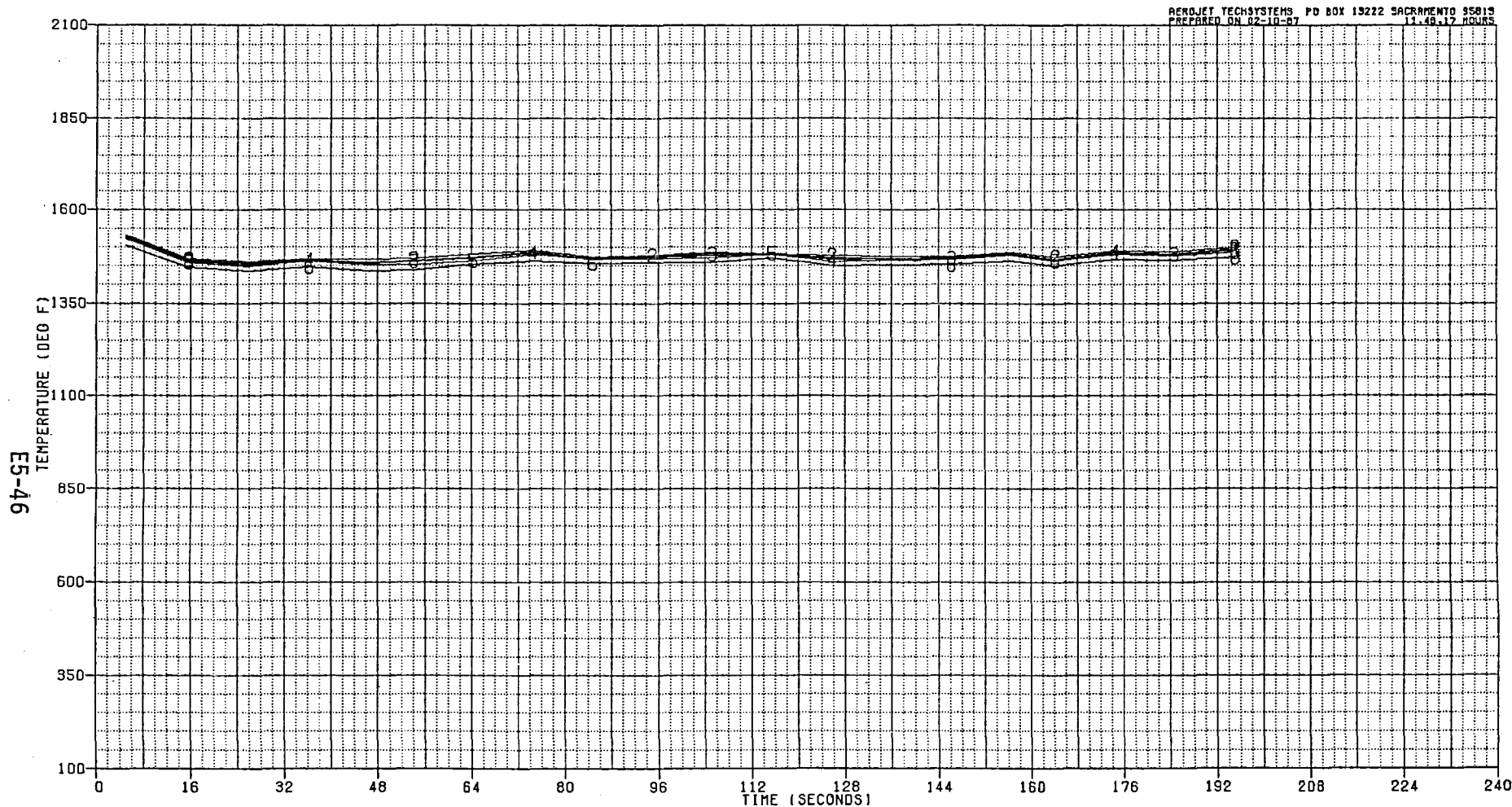


ES-45

- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA

AEROJET  
**@TechSystems**  
 COMPANY

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-143  
 PRESSURE MEASUREMENTS  
 TEST DATE 08-19-86 1331 HOURS

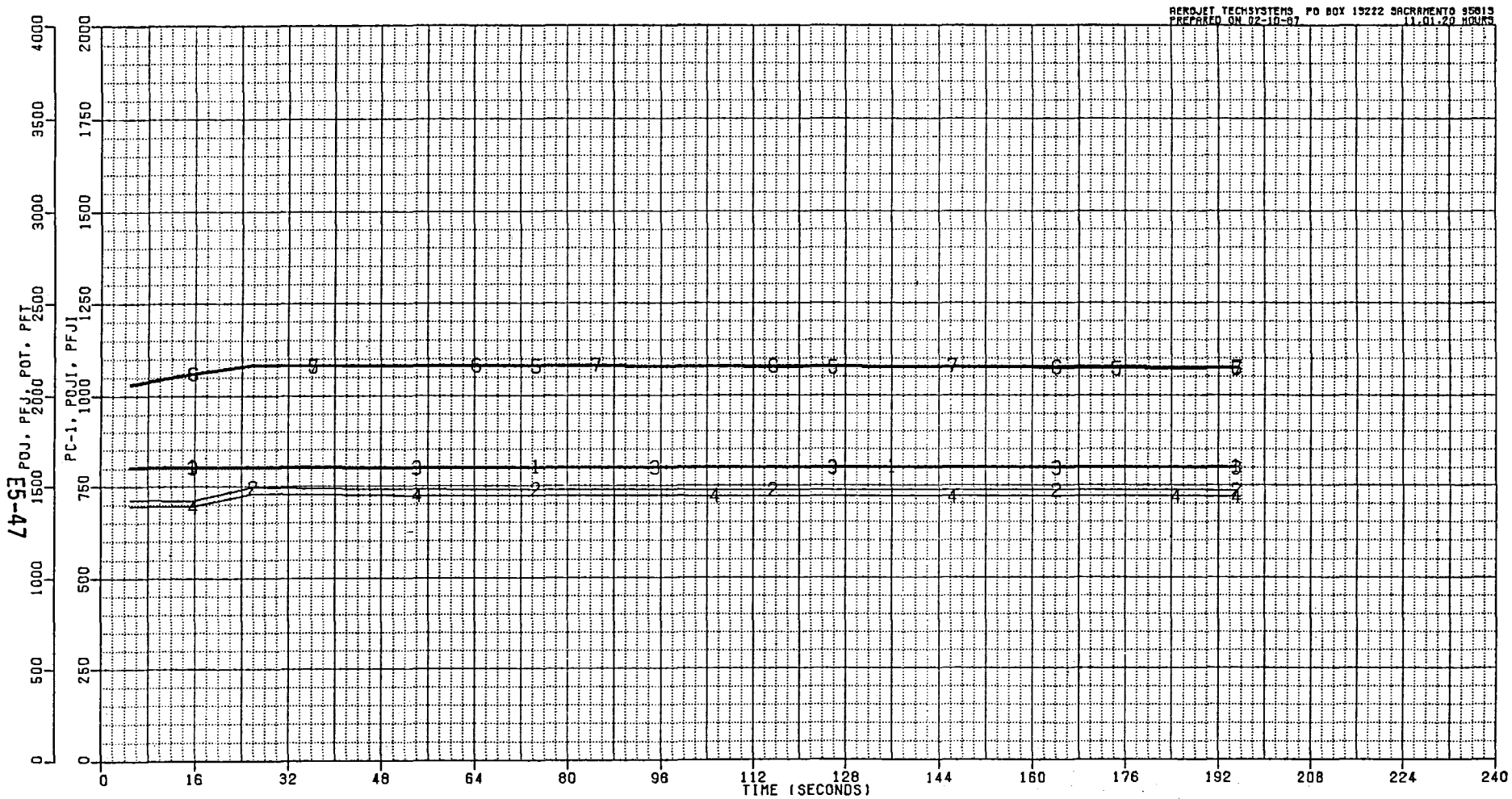


1 TCR-1 DEG F  
2 TCR-2 DEG F  
3 TCR-3 DEG F  
4 TCR-4 DEG F  
5 TCR-5 DEG F  
6 TCR-6 DEG F

AEROJET  
@TechSystems  
COMPANY

GAS TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-143  
PRESSURE MEASUREMENTS  
TEST DATE 08-19-86 1331 HOURS





AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-10-87 11.01.20 HOURS

7-4-87  
 ES-47

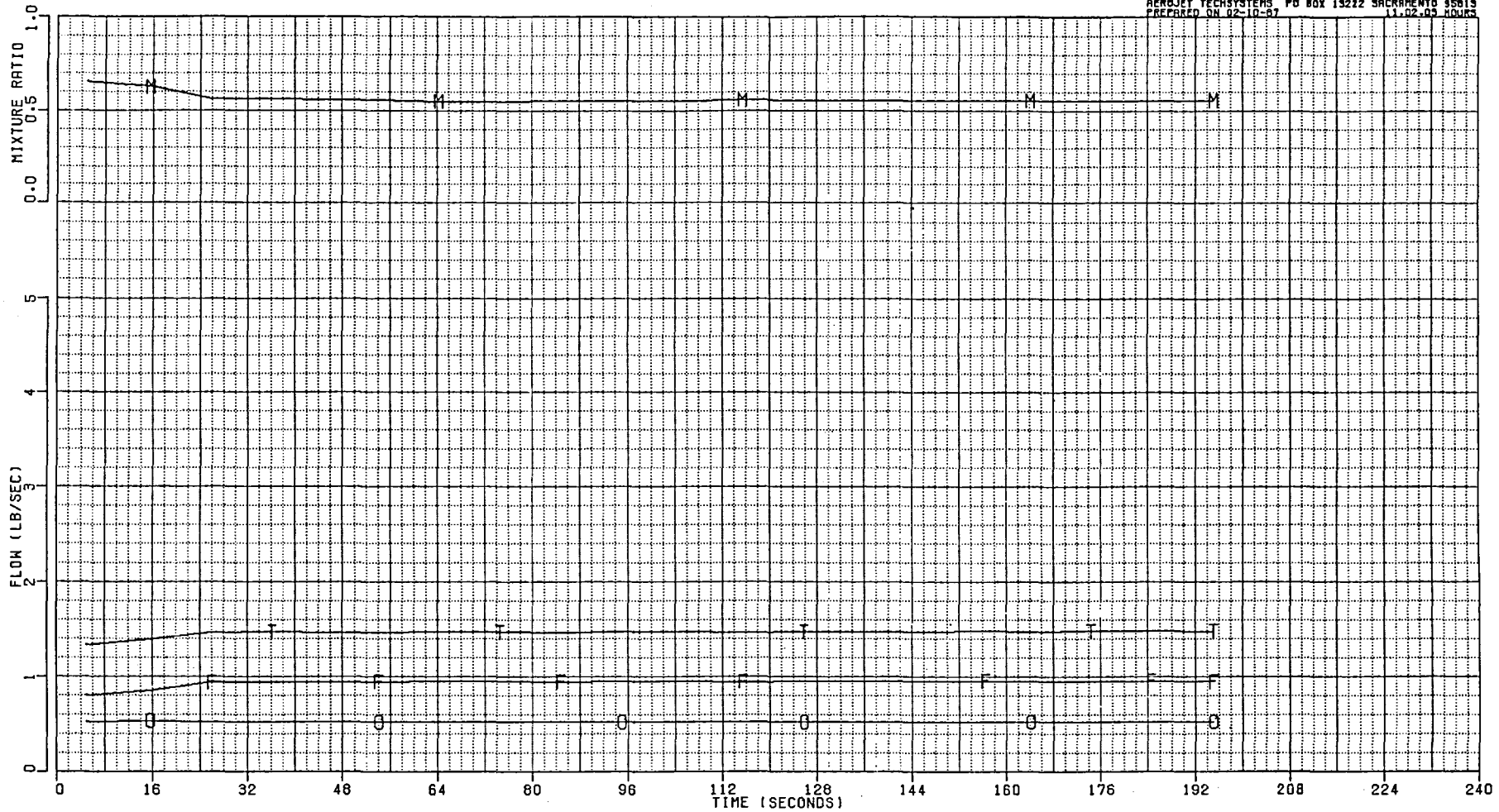
- 1 POT PSIA
- 2 PFT PSIA
- 3 POJ PSIA
- 4 PFJ PSIA
- 5 PC-1 PSIA
- 6 POJI PSIA
- 7 PFJI PSIA



MEASURED PRESSURES VS TIME  
 TEST NO. 2427-229-A6-144  
 TEST DATE 08-18-86 1447 HOURS



E5-48

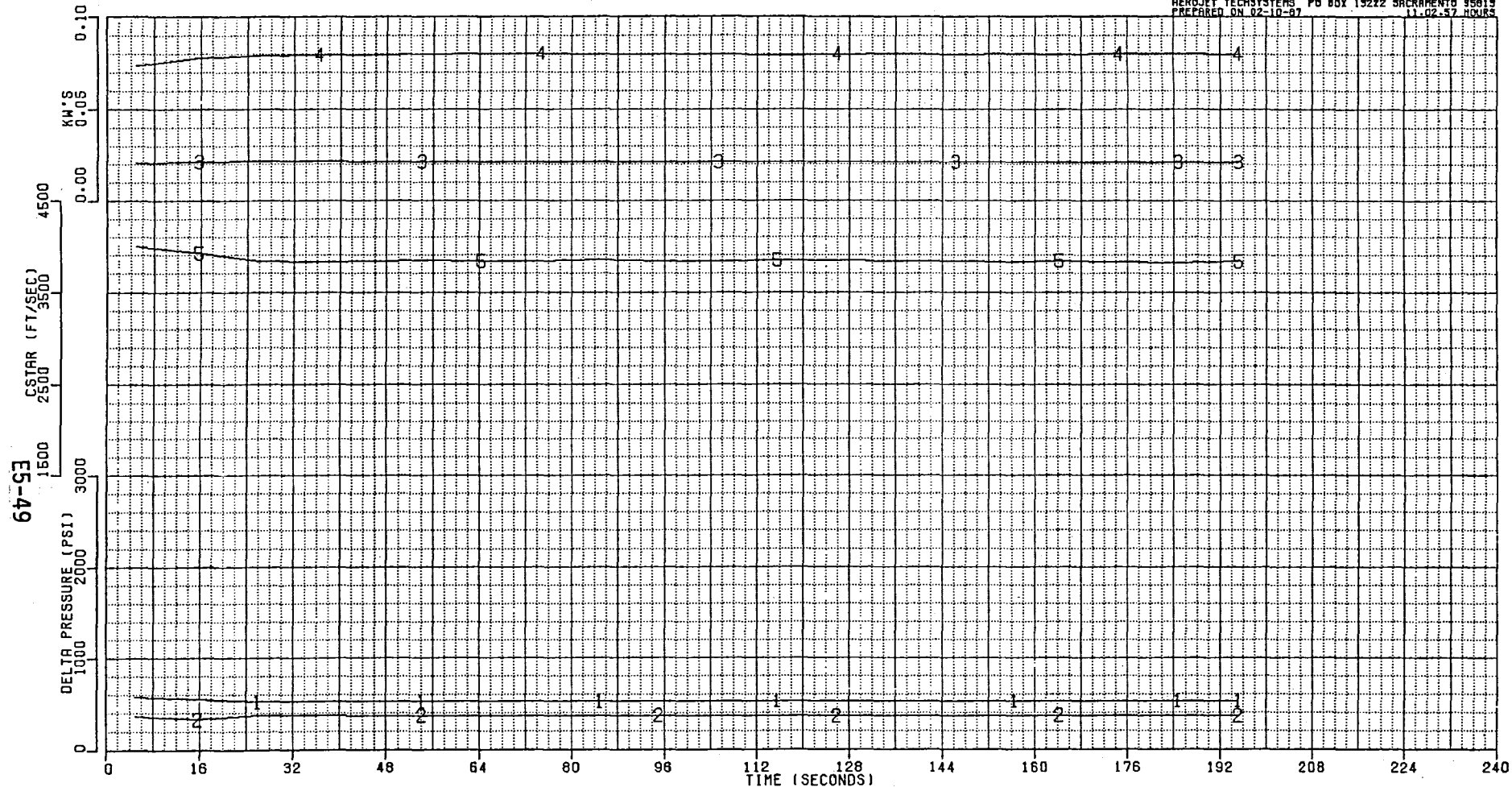


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-144

TEST DATE 08-18-86 1447 HOURS

AEROJET  
**@TechSystems**  
 COMPANY



AEROJET TECHSYSTEMS PO BOX 15222 SACRAMENTO 95813  
PREPARED ON 02-10-87 11.02.47 HOURS

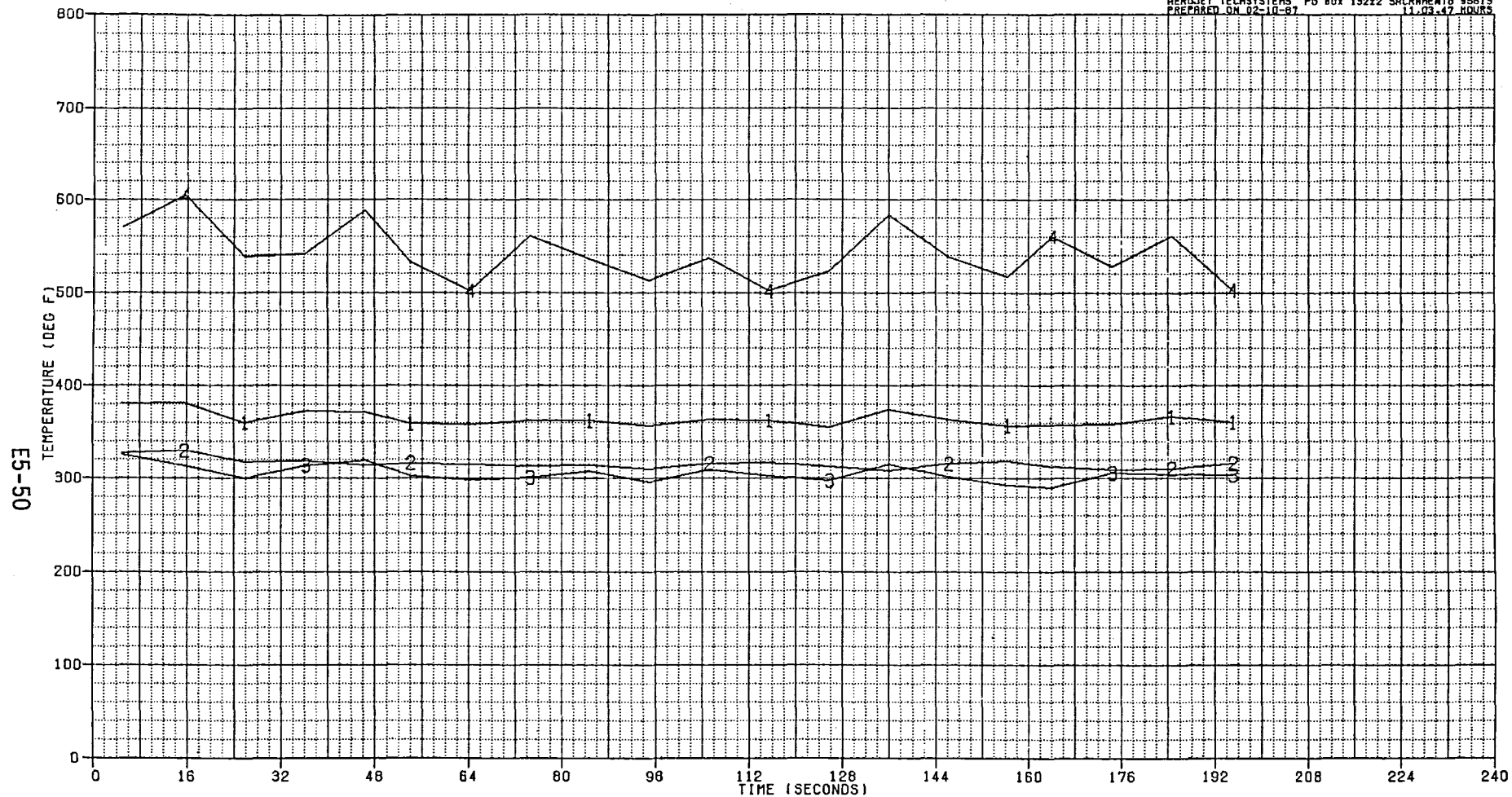
- |          |        |
|----------|--------|
| 1 DPOJ   | PSI    |
| 2 DPFJ   | PSI    |
| 3 KWOJ   |        |
| 4 KWFJ   |        |
| 5 CSTRPB | FT/SEC |
| 6 CSTAR  | FT/SEC |

AEROJET  
**@TechSystems**  
COMPANY

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-229-A6-144

TEST DATE 08-18-86 1447 HOURS

AEROJET TECHSYSTEMS PD BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-10-87 11:03:47 HOURS

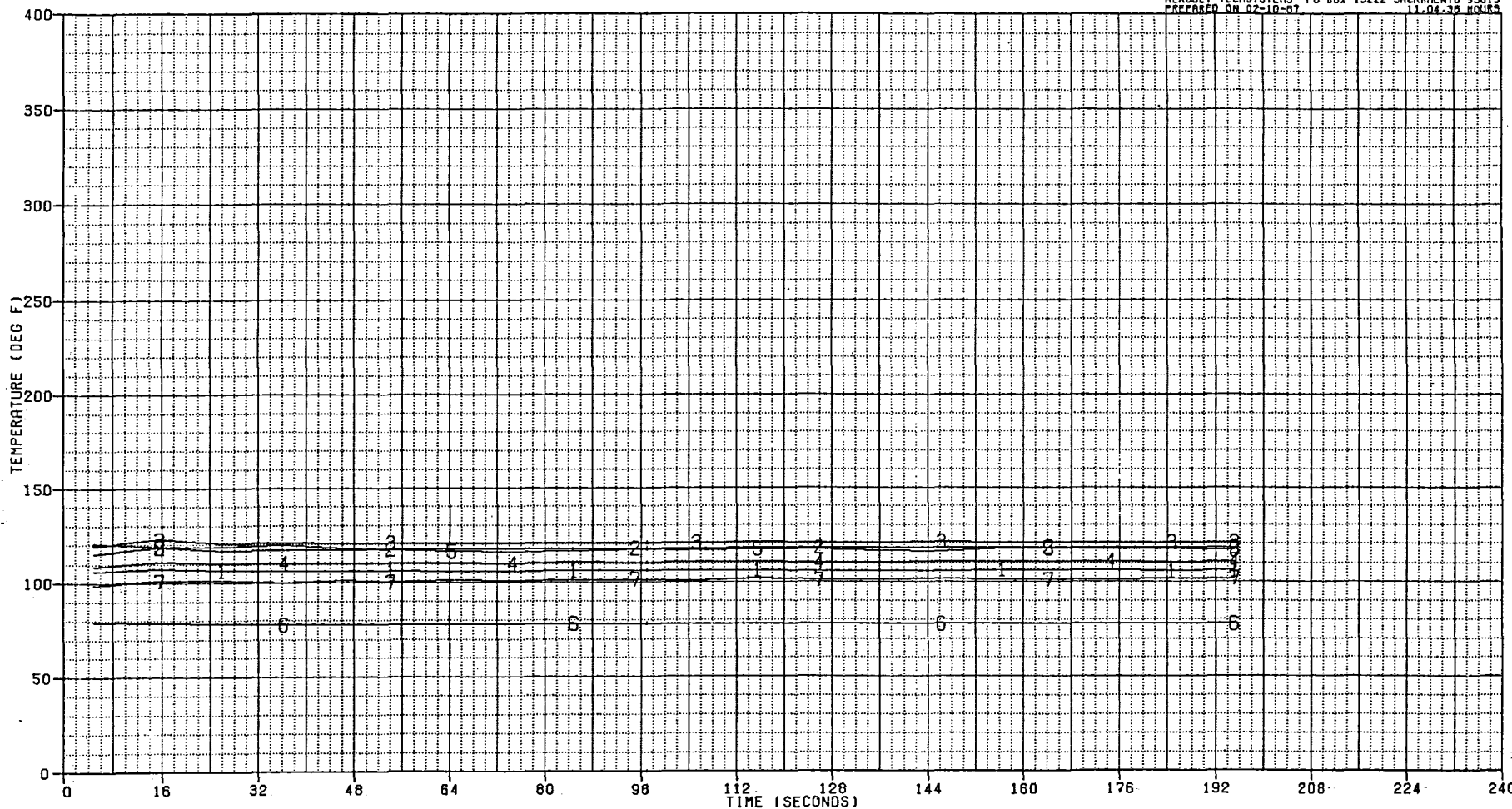


1 TC-7 DEG F  
2 TC-10 DEG F  
3 TC-11 DEG F  
4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-144  
BARREL DATA  
TEST DATE 08-18-86 1447 HOURS

AEROJET  
**TechSystems**  
COMPANY

ES-51

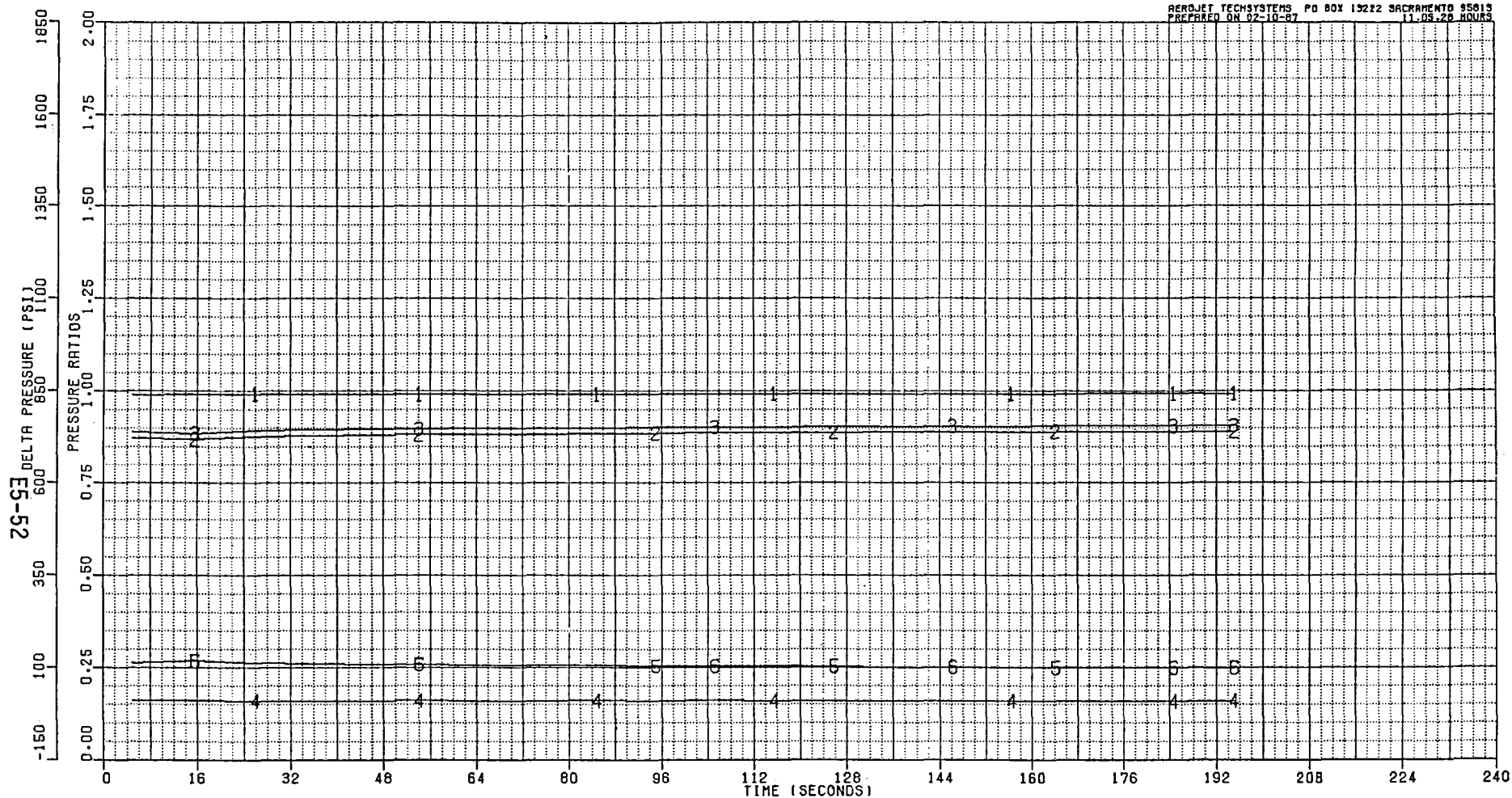


- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

AEROJET  
**TechSystems**  
 COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-144

TEST DATE 08-18-86 1447 HOURS

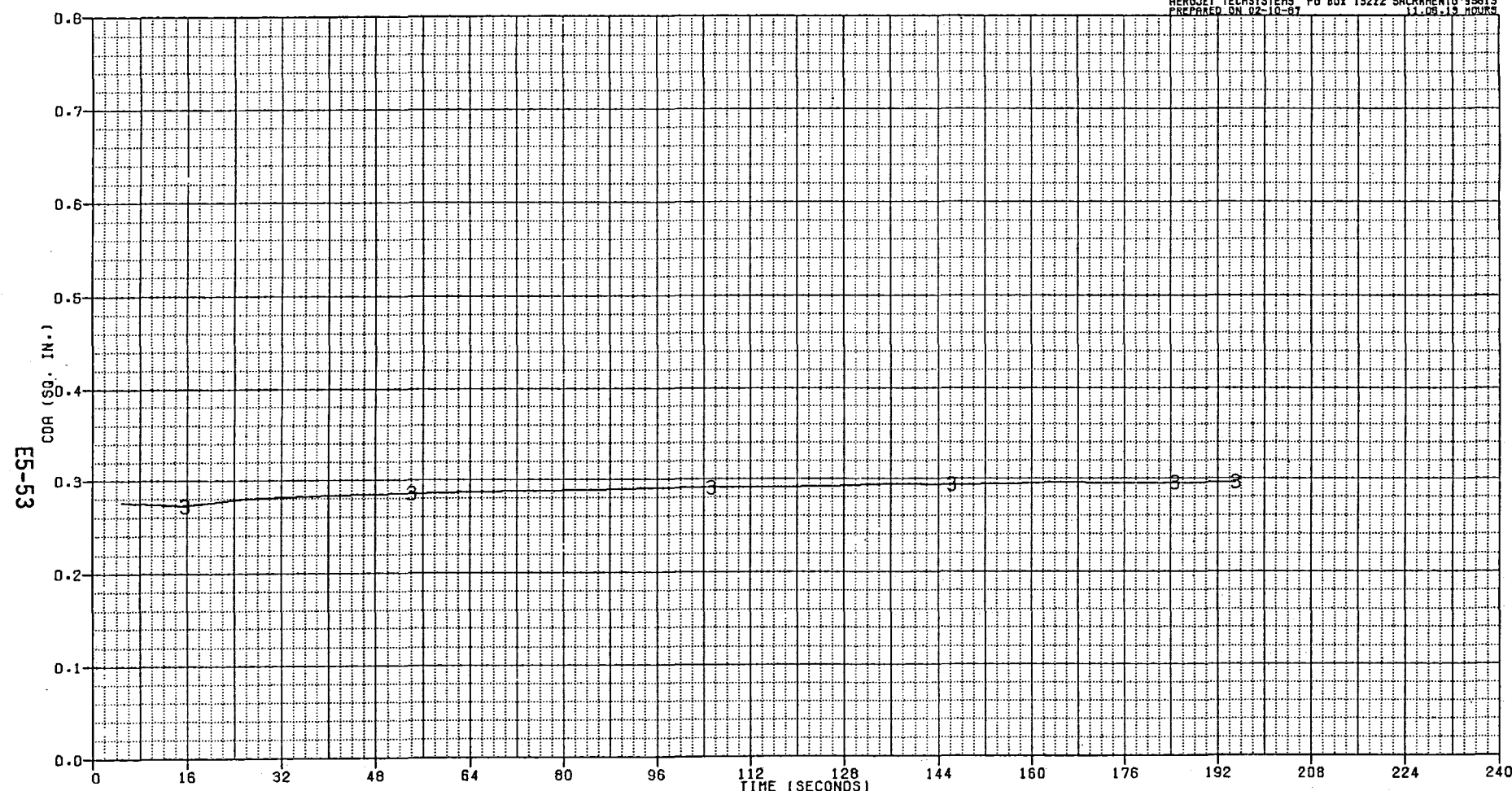


- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-144  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 08-18-86 1447 HOURS

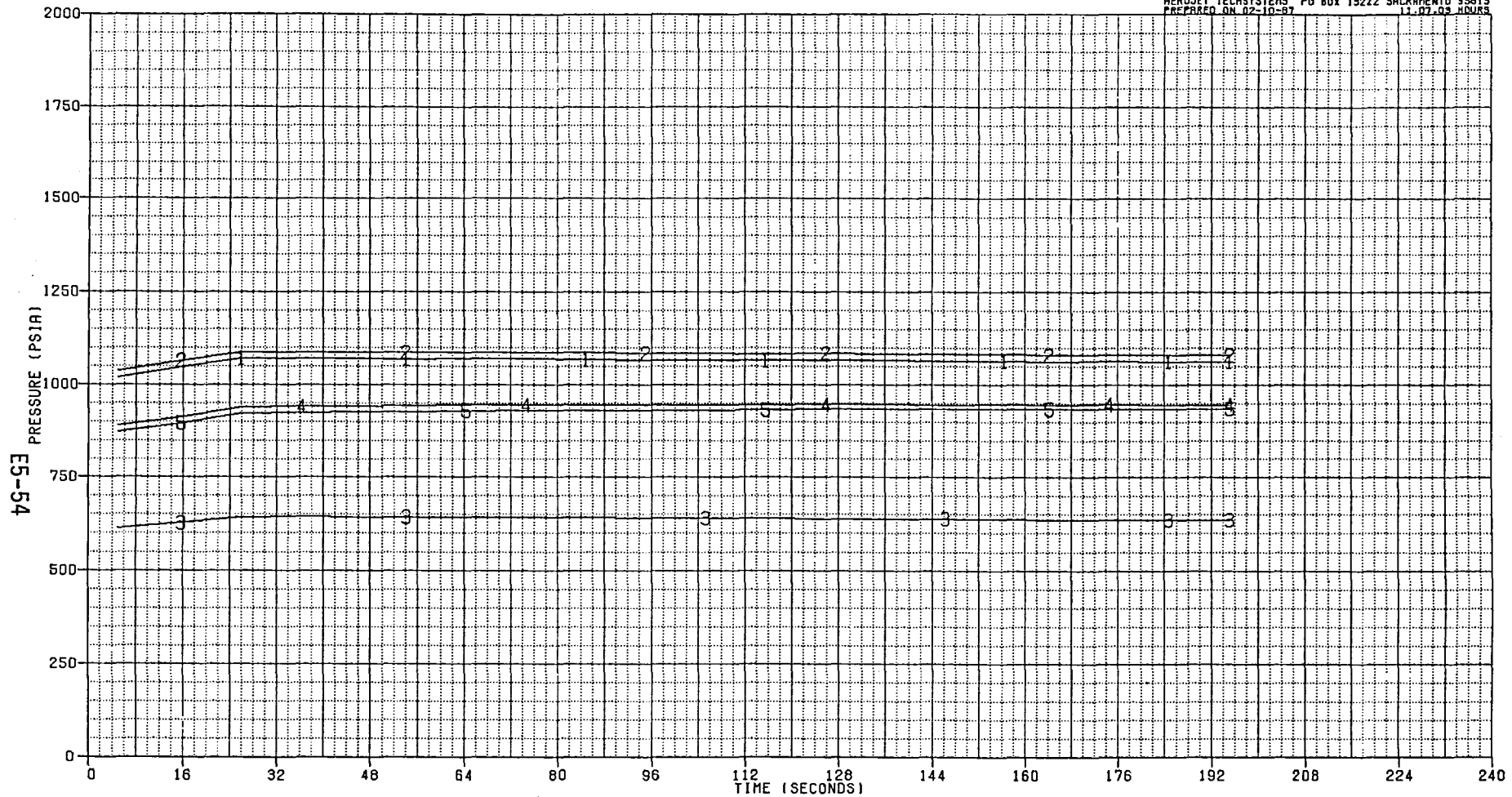


ES-53

- 1 NA1 SQ. IN.
- 2 NA2 SQ. IN.
- 3 CDA

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-144  
NOZZLE AREA CHANGE  
TEST DATE 08-18-86 1447 HOURS



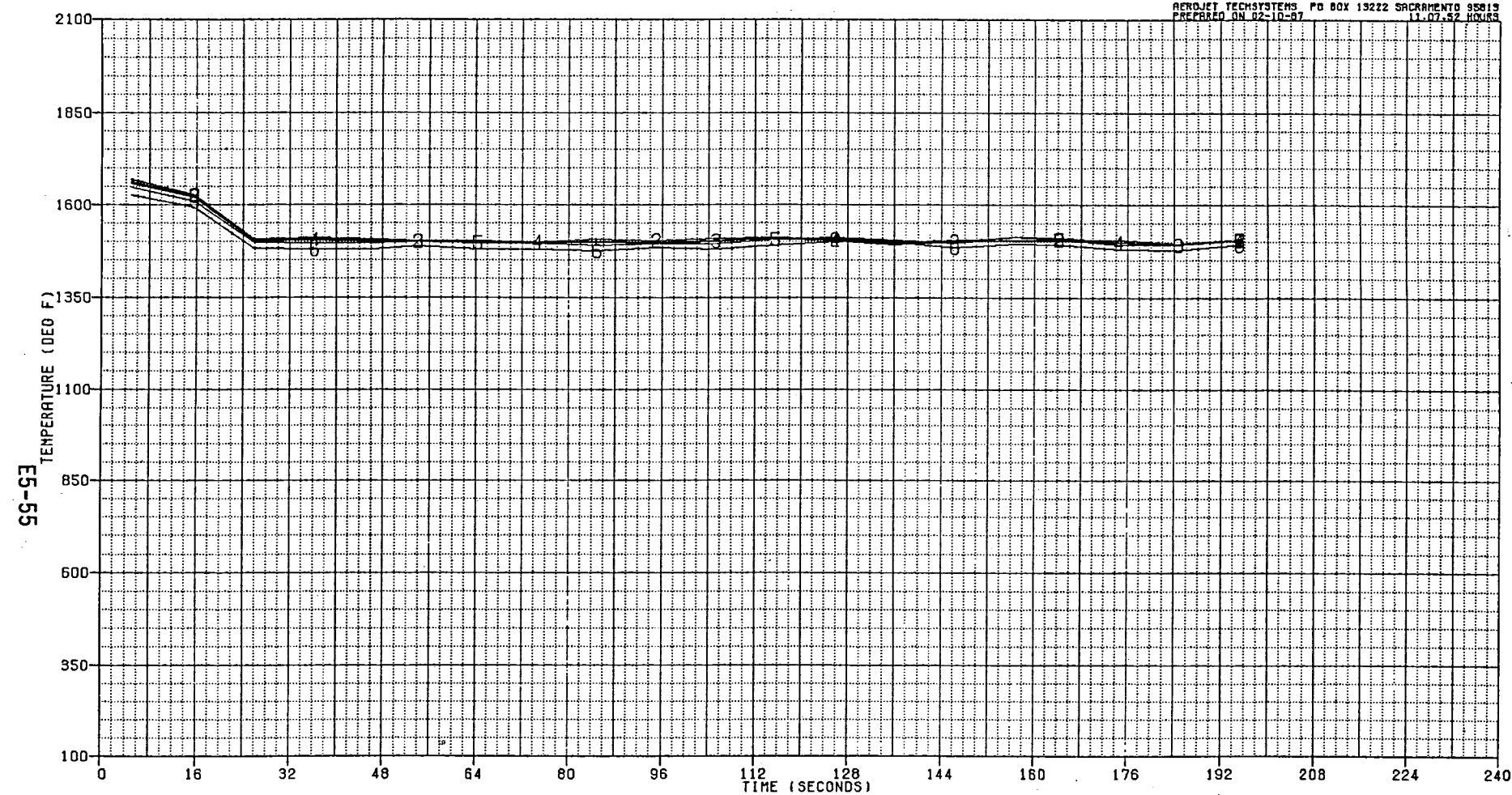


- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-144  
 PRESSURE MEASUREMENTS  
 TEST DATE 08-18-86 1447 HOURS





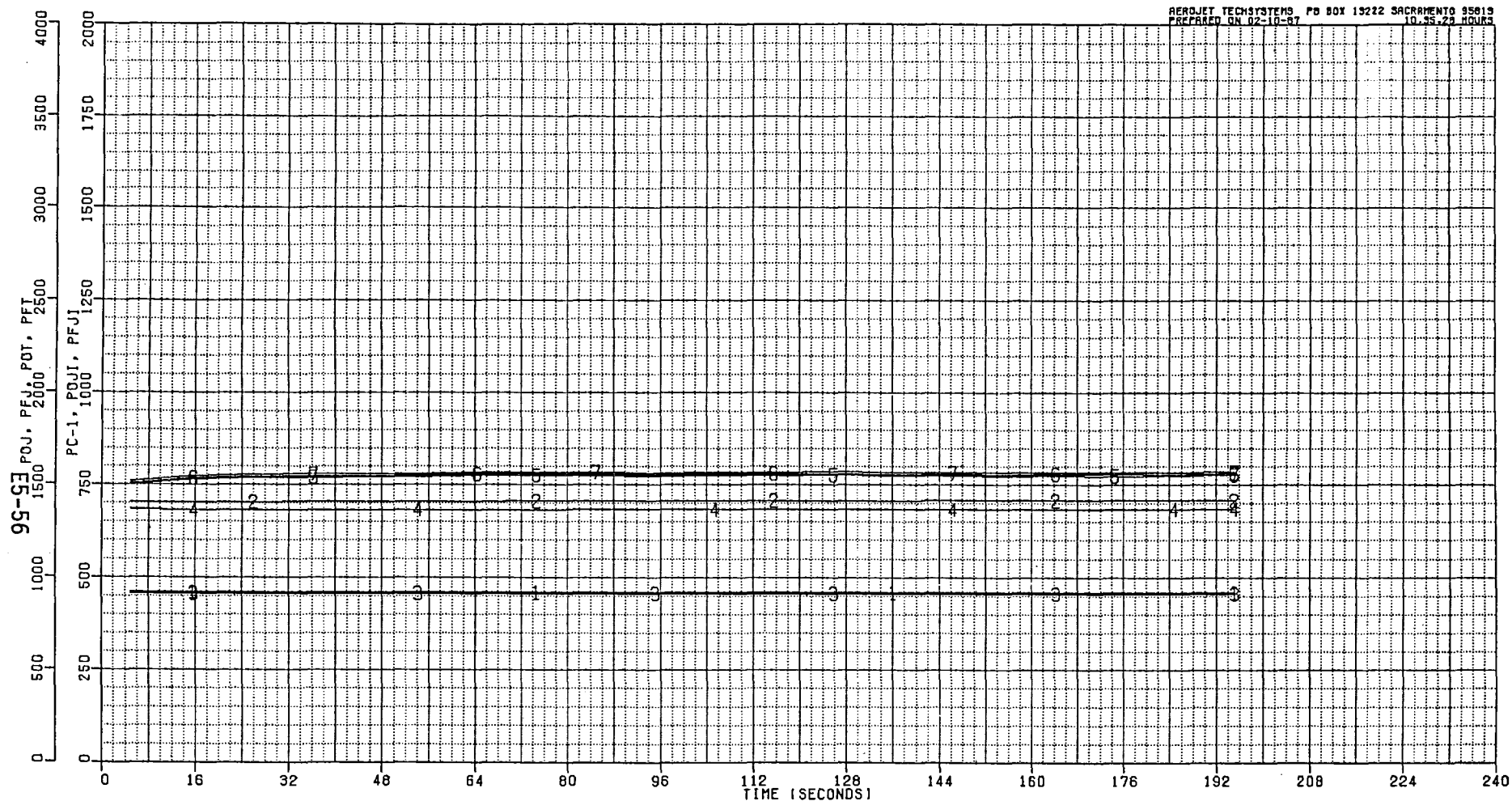


- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F



GAS TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-144  
PRESSURE MEASUREMENTS  
TEST DATE 08-18-86 1447 HOURS





AEROJET TECHSYSTEMS PD BOX 15222 SACRAMENTO 95815  
 PREPARED ON 02-10-87 10:55:22 HOURS

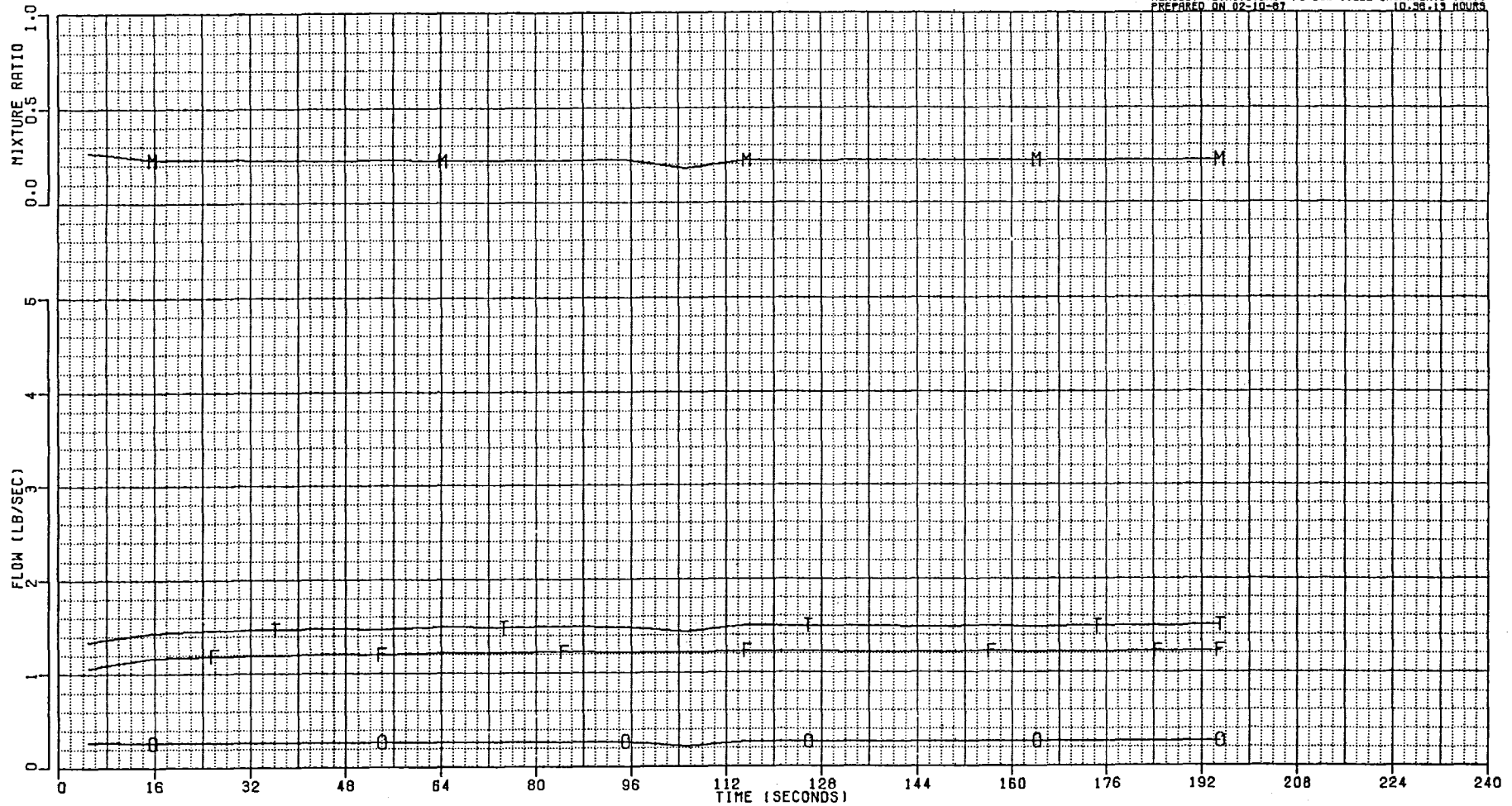
1 POT PSIA  
 2 PFT PSIA  
 3 POJ PSIA  
 4 PFJ PSIA  
 5 PC-1 PSIA  
 6 POJI PSIA  
 7 PFJI PSIA

AEROJET  
**TechSystems**  
 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-229-A6-149

TEST DATE 08-18-86 1628 HOURS

ES-57



F WF LBS/SEC  
O WOX LBS/SEC  
T WTOT LBS/SEC  
M MR

INJECTOR FLOW VS TIME  
TEST NO. 2427-229-A6-149

TEST DATE 08-18-86 1628 HOURS

AEROJET  
**@TechSystems**  
COMPANY

AEROJET TECHSYSTEMS PO BOX 15222 SACRAMENTO 95813  
PREPARED ON 02-10-87 10:58:13 HOURS

10.27.09 HOURS

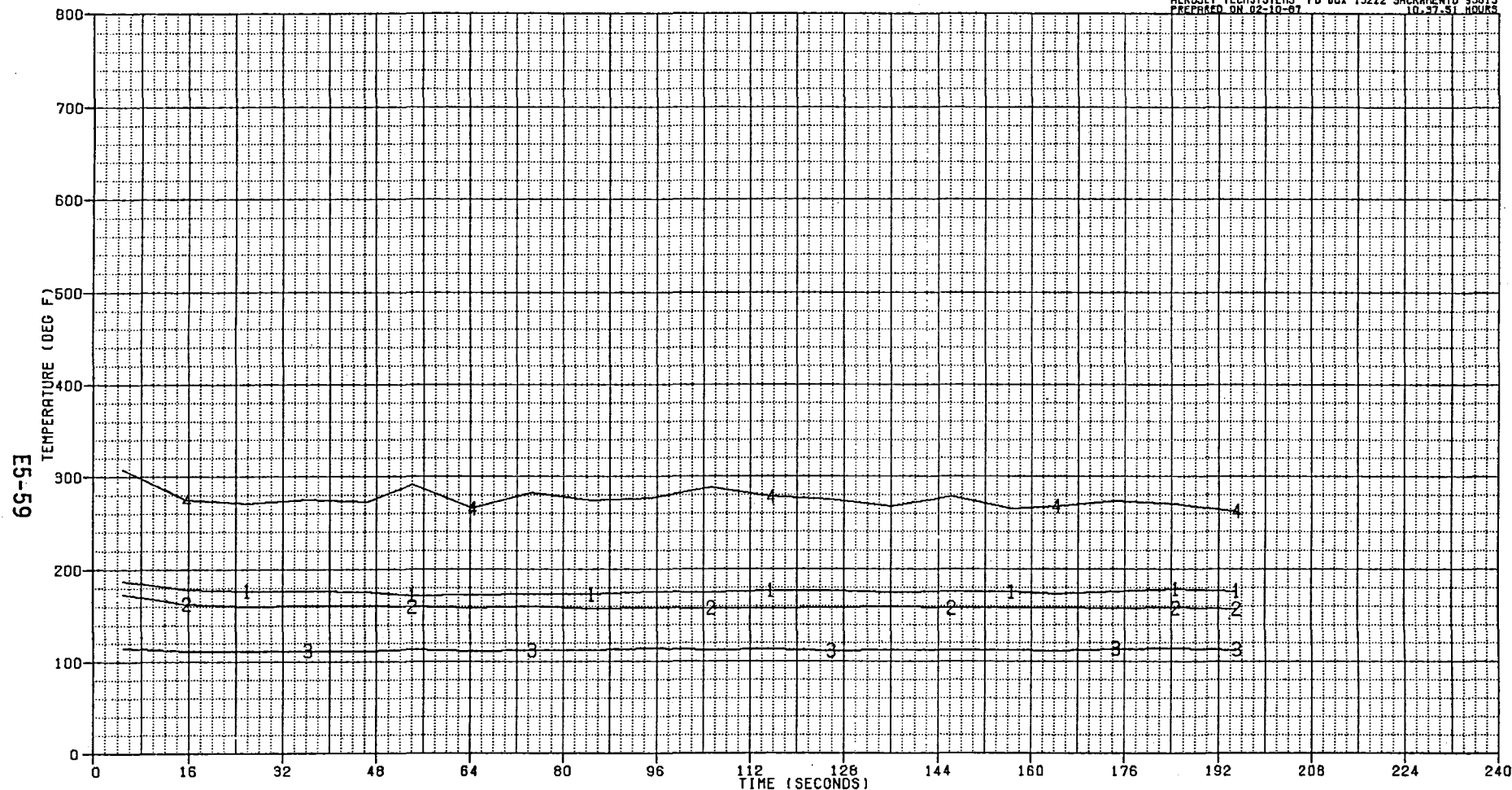


- PSI  
PSI

TEST NO. 2427-229-A6-149

TEST DATE 08-18-86 1628 HOURS

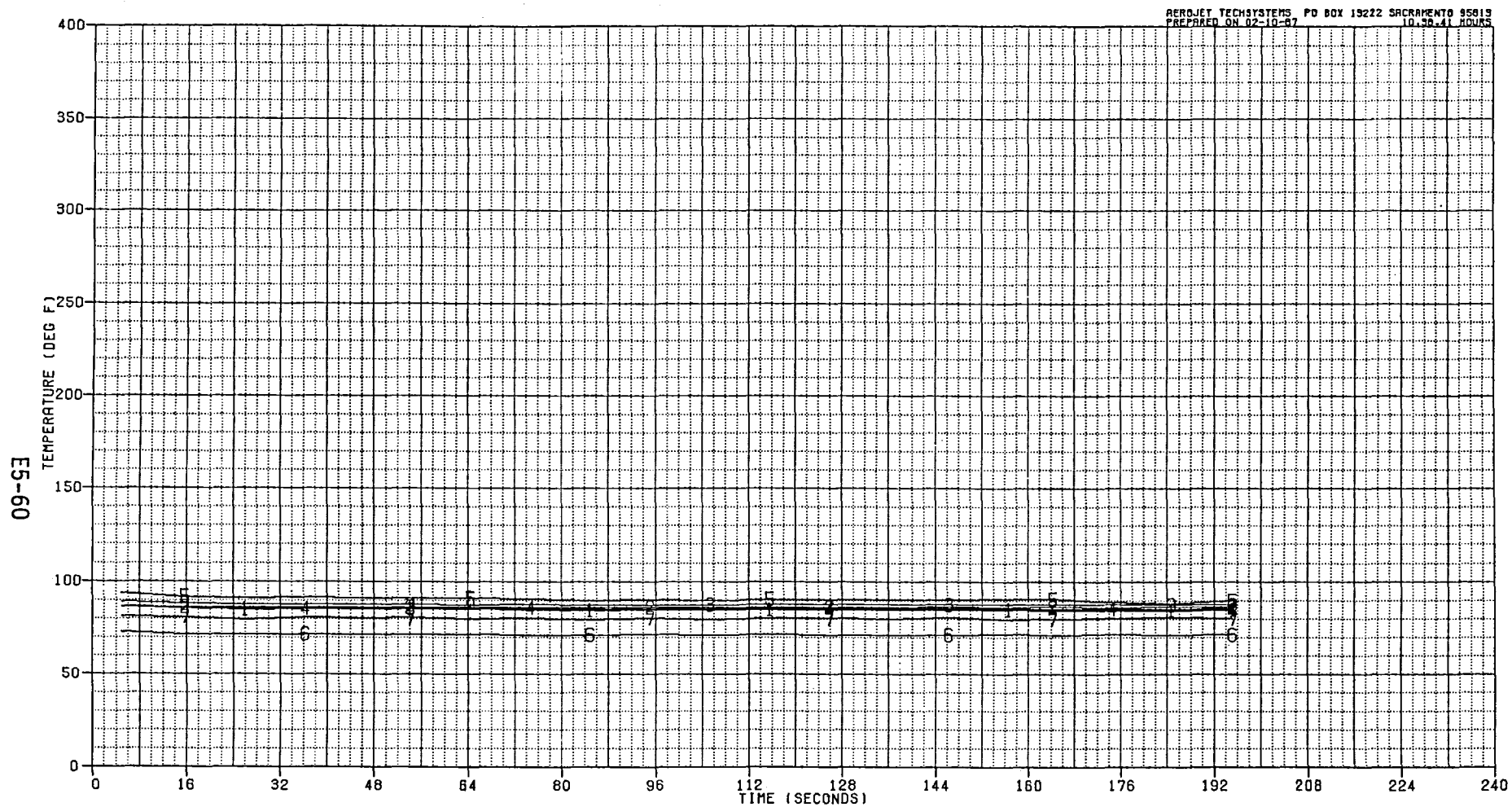




1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-149  
 BARREL DATA  
 TEST DATE 08-18-86 1628 HOURS

AEROJET  
**TechSystems**  
 COMPANY

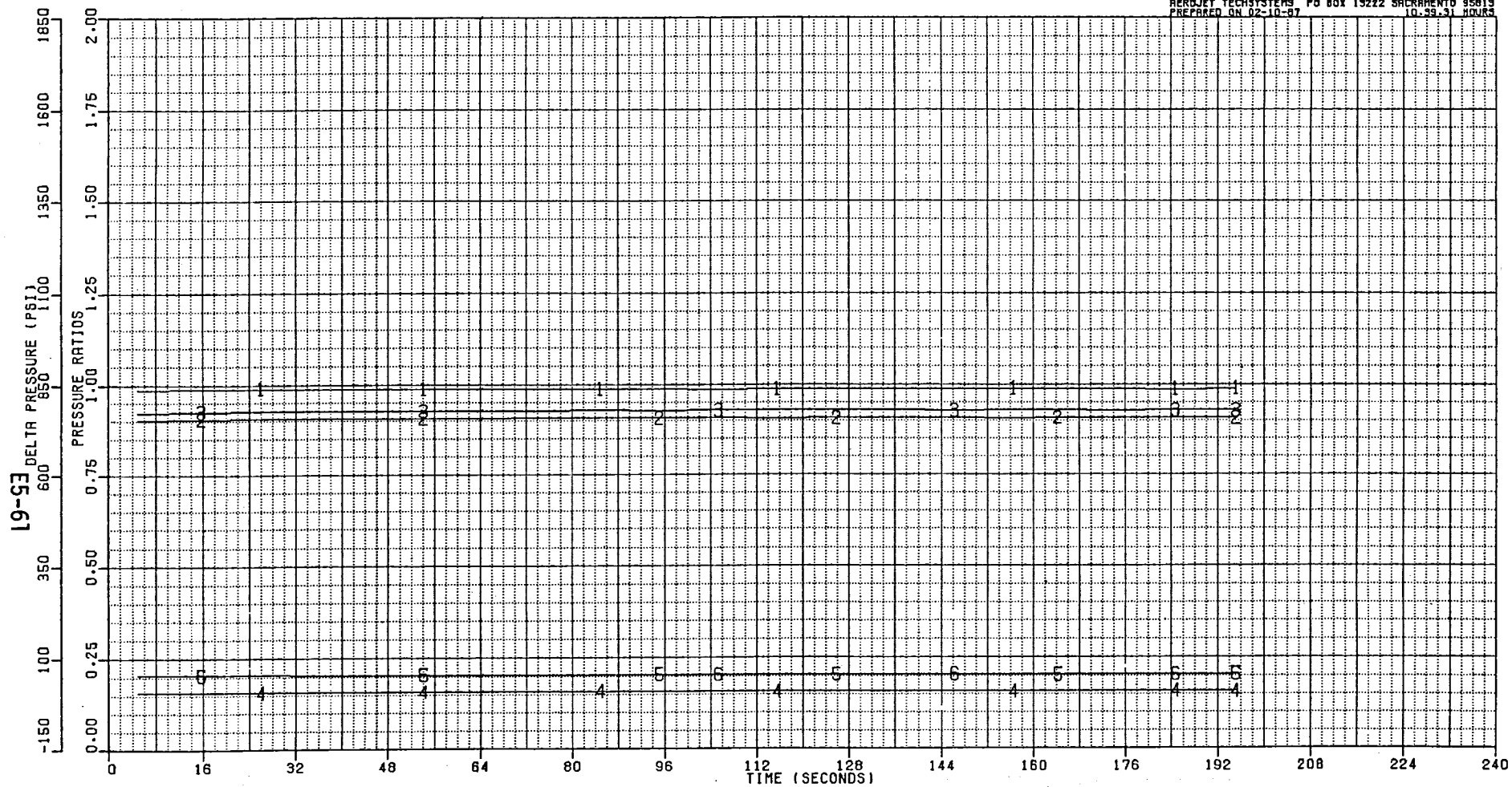


1 TWC-2 DEG F  
2 TWC-26 DEG F  
3 TWC-27 DEG F  
4 TWC-31 DEG F  
5 TWC-32 DEG F  
6 TWC-33 DEG F  
7 TC-7C DEG F

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TechSystems  
COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-149

TEST DATE 08-18-86 1628 HOURS



AEROJET TECHSYSTEMS PO BOX 15222 SACRAMENTO 95813  
PREPARED ON 02-10-87 10:59:31 HOURS

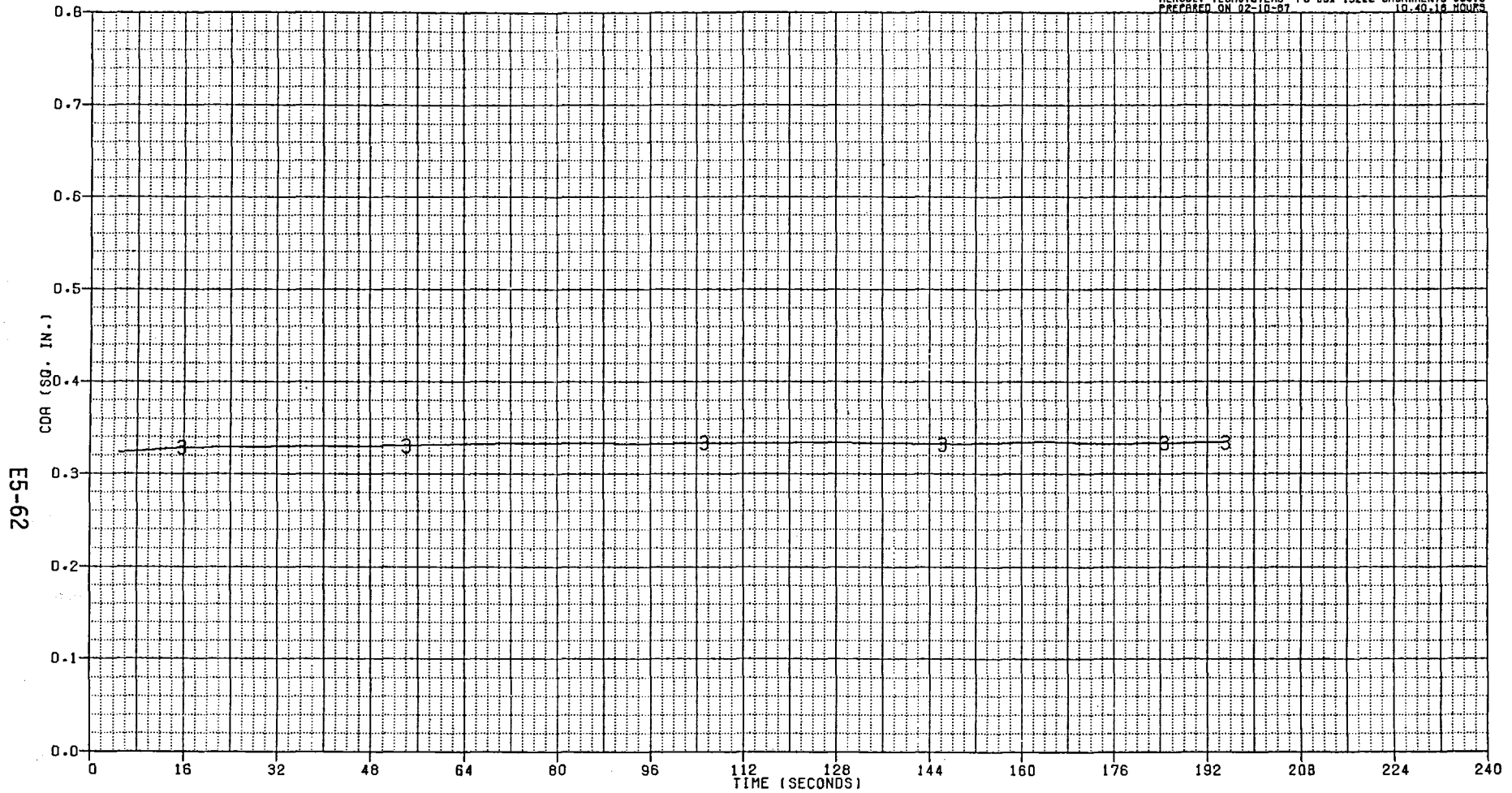
- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 OPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

AEROJET  
**@TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-149  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 08-18-86 1628 HOURS

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-10-87 10:40:15 HOURS



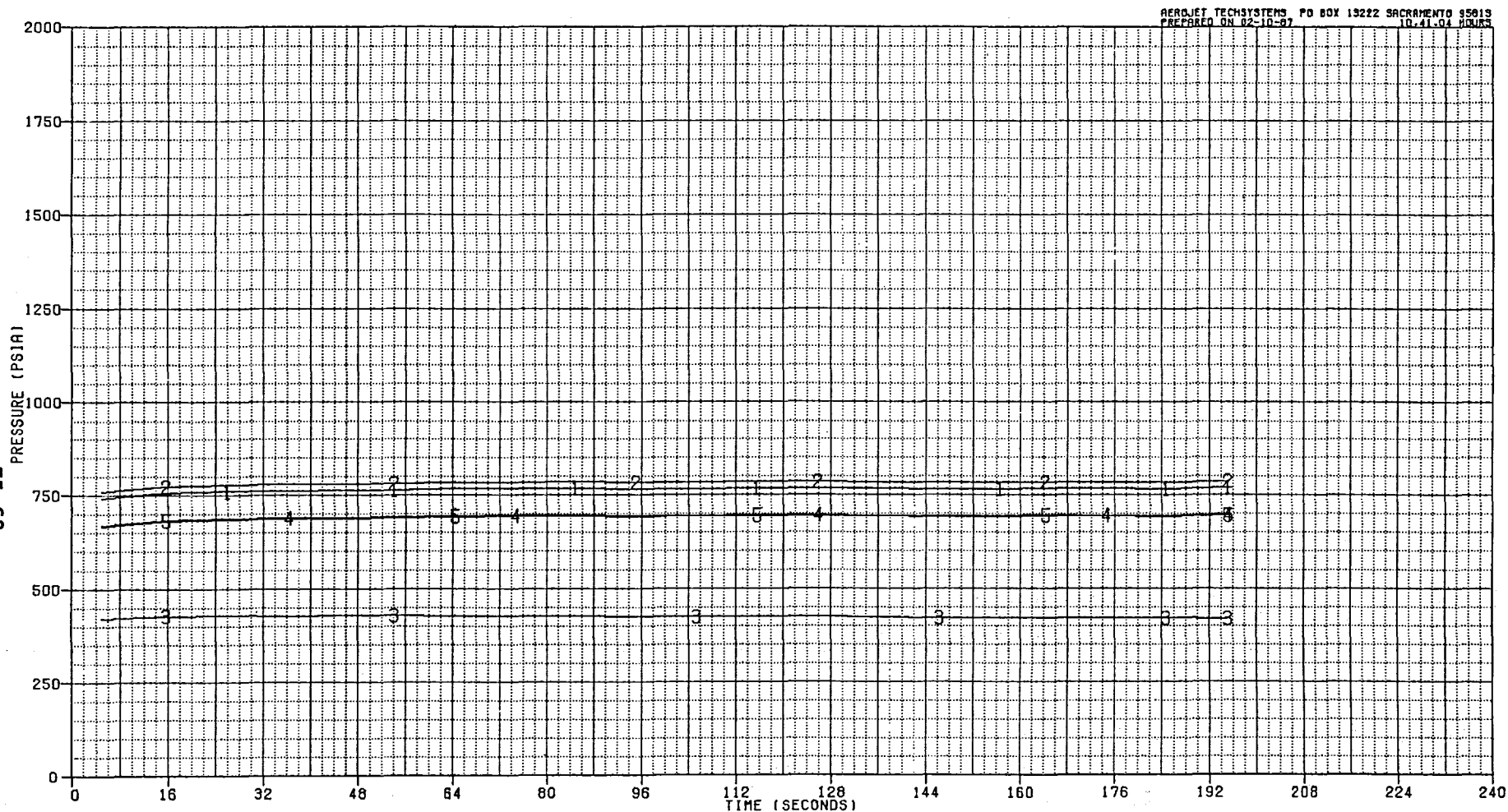
1 NR1 SQ. IN.  
2 NR2 SQ. IN.  
3 CDA

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-149  
NOZZLE AREA CHANGE  
TEST DATE 08-18-86 1628 HOURS

AEROJET  
TechSystems  
COMPANY



ES-63



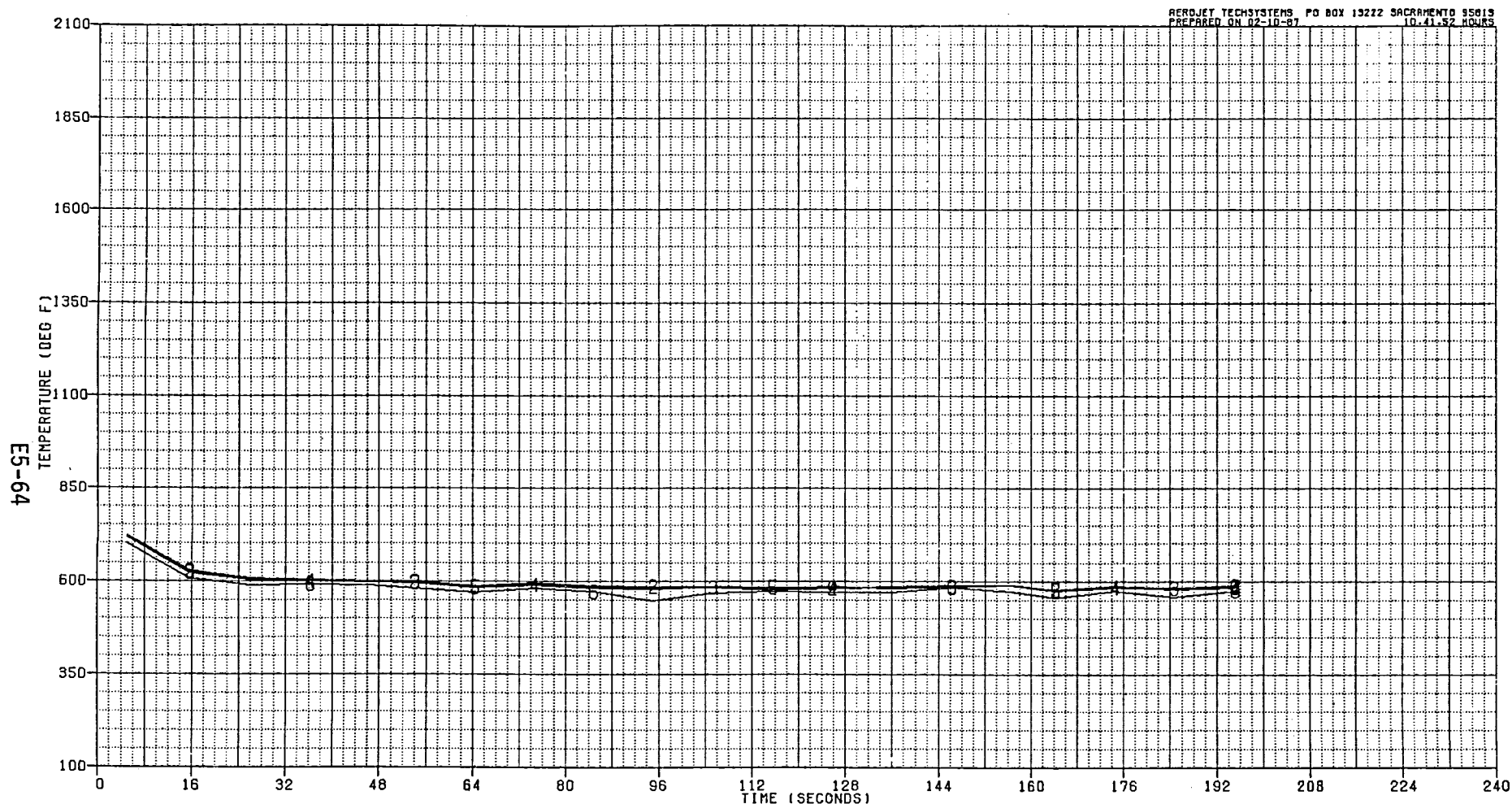
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-10-87 10:41:04 HOURS

- 1 PCTSU PSIA
- 2 PCTSU-2 PSIA
- 3 PCTSU-3 PSIA
- 4 PCTSD PSIA
- 5 PCTSD-2 PSIA

AEROJET  
**@TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-149  
PRESSURE MEASUREMENTS  
TEST DATE 08-18-86 1628 HOURS



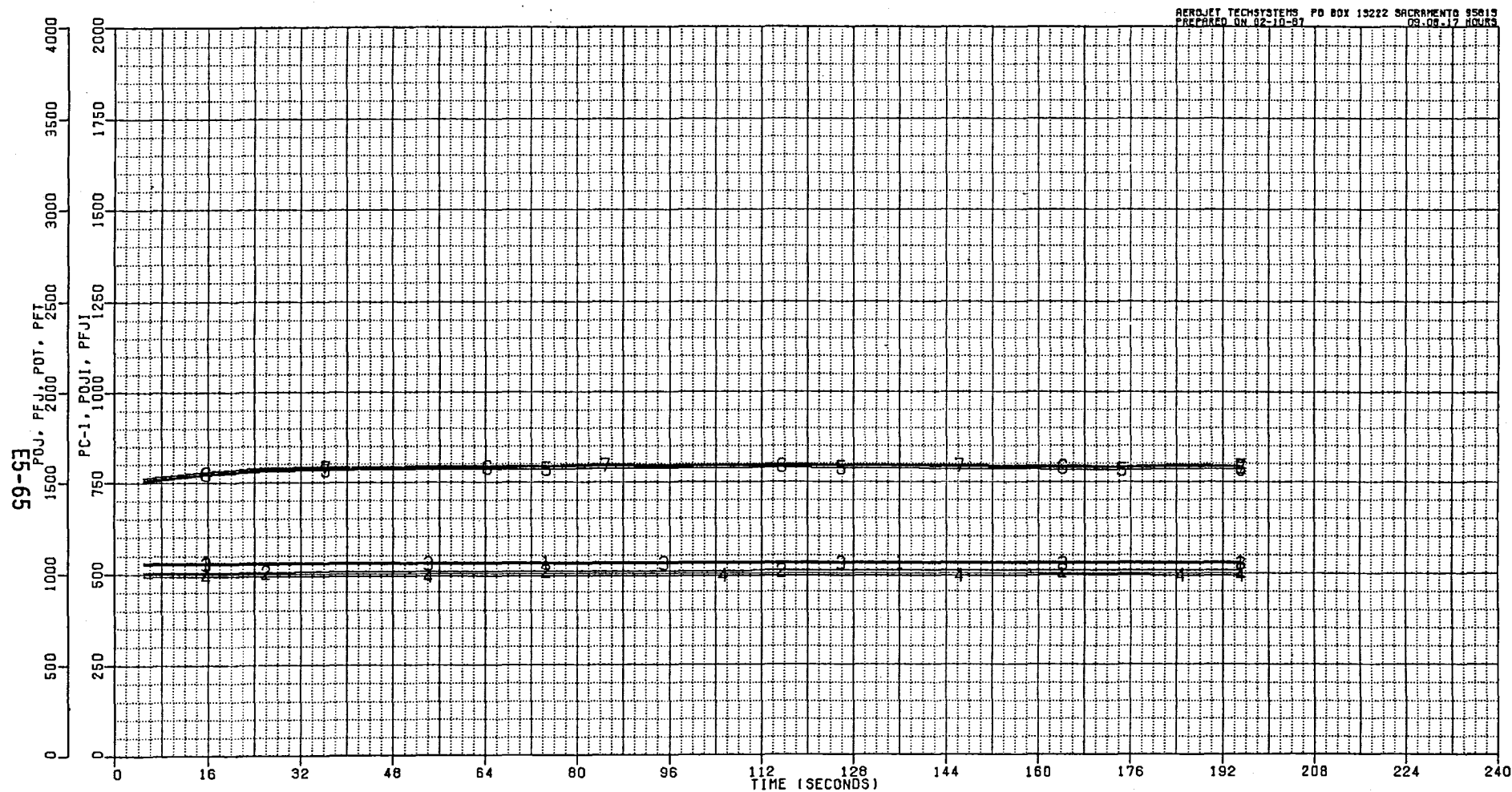


AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-10-87 10:41:52 HOURS

- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F

GAS TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-149  
PRESSURE MEASUREMENTS  
TEST DATE 08-18-86 1628 HOURS

AEROJET  
**TechSystems**  
COMPANY



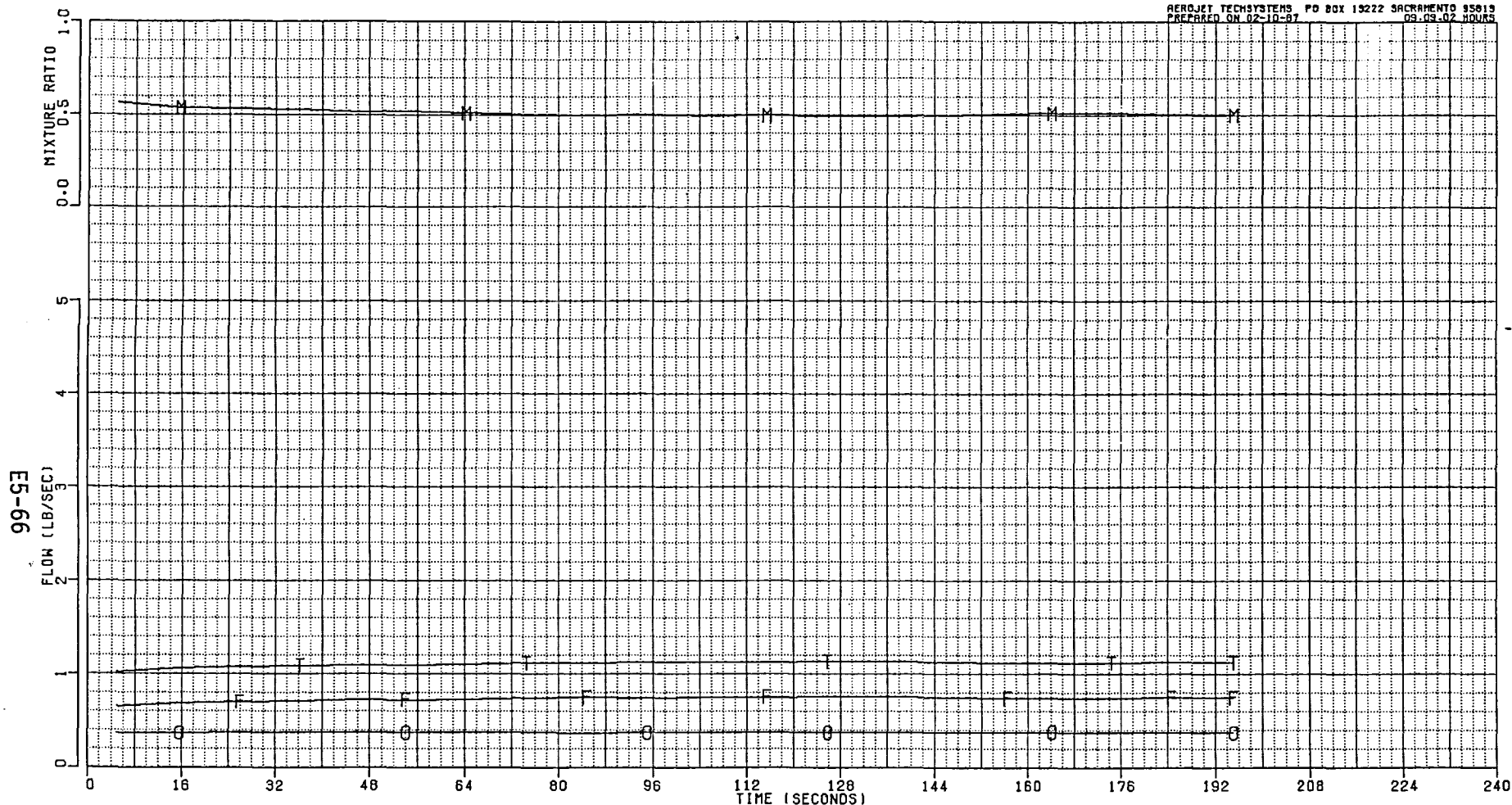
AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-10-87 08-08-17 HOURS

- 1 POT PSIA
- 2 PFT PSIA
- 3 PQJ PSIA
- 4 PFJ PSIA
- 5 PC-1 PSIA
- 6 PQJI PSIA
- 7 PFJI PSIA

AEROJET  
TechSystems  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-229-A6-151

TEST DATE 08-18-86 1717 HOURS



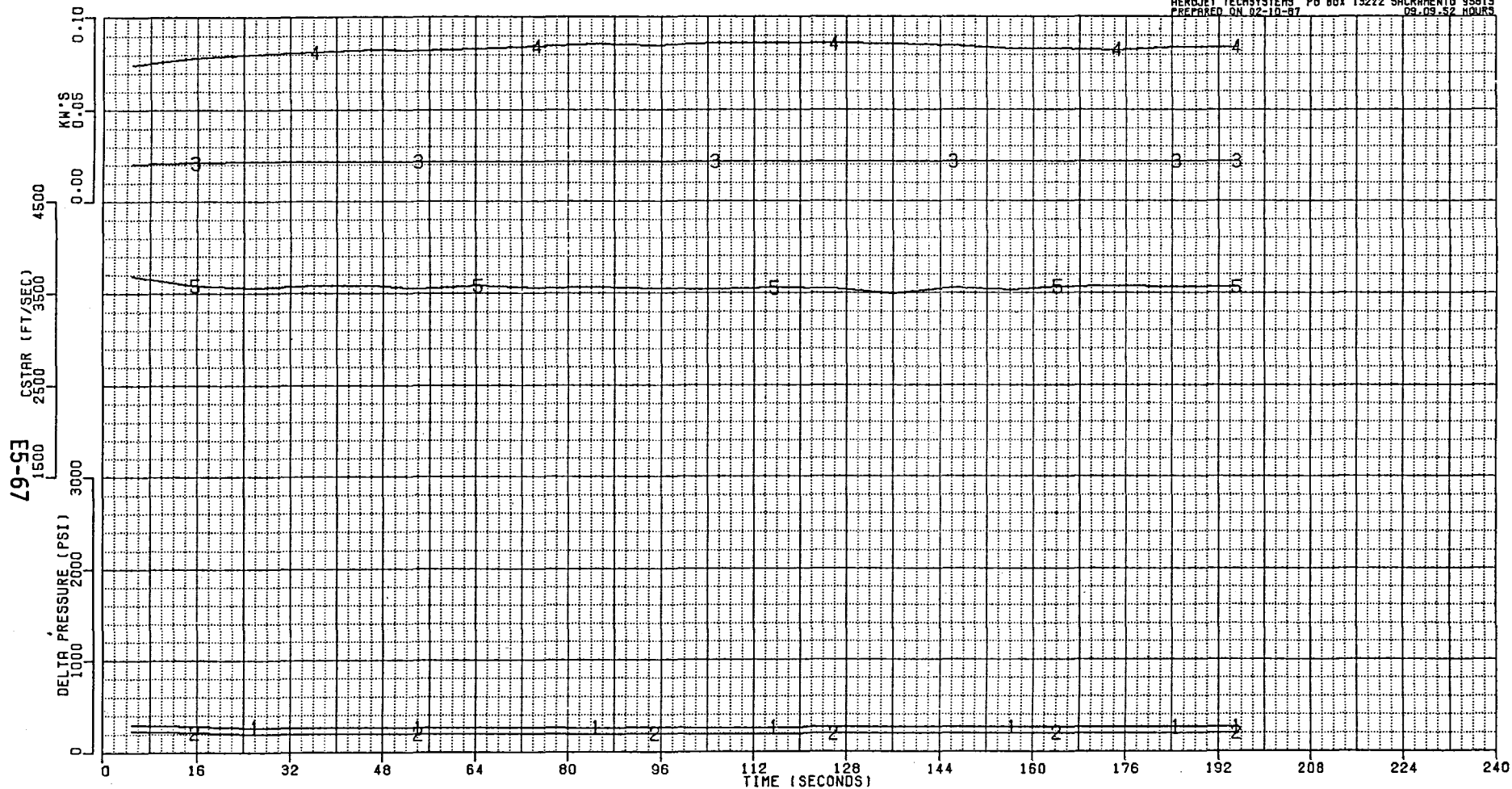
E5-66

F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-151

TEST DATE 08-18-86 1717 HOURS





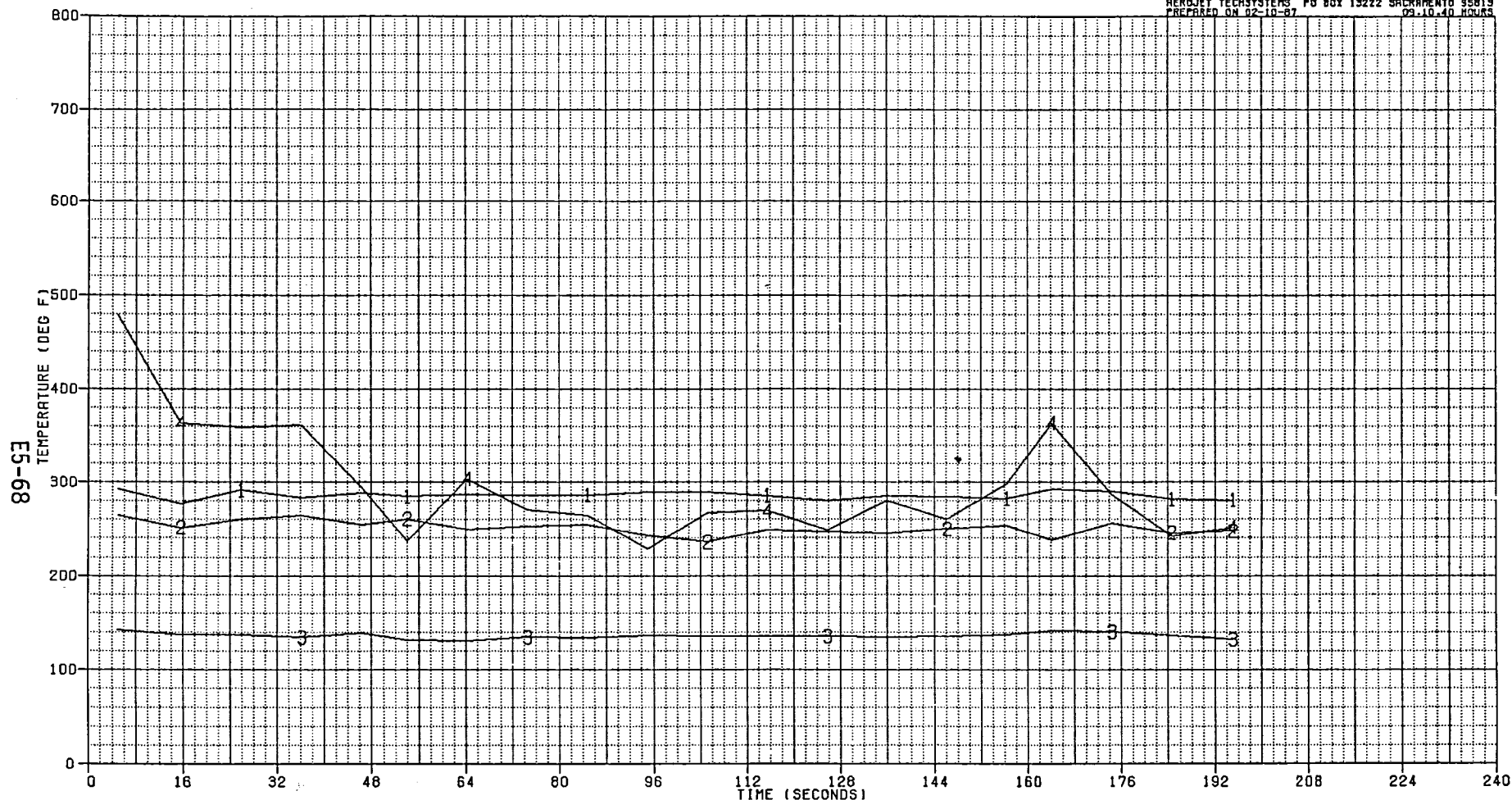
AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-10-87 09:09:52 HOURS

- 1 DPOJ PSI
- 2 DPFJ PSI
- 3 KWOJ
- 4 KWFJ
- 5 CSTRPB FT/SEC
- 6 CSTAR FT/SEC

AEROJET  
**@TechSystems**  
 COMPANY

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-229-A6-151

TEST DATE 08-18-86 1717 HOURS

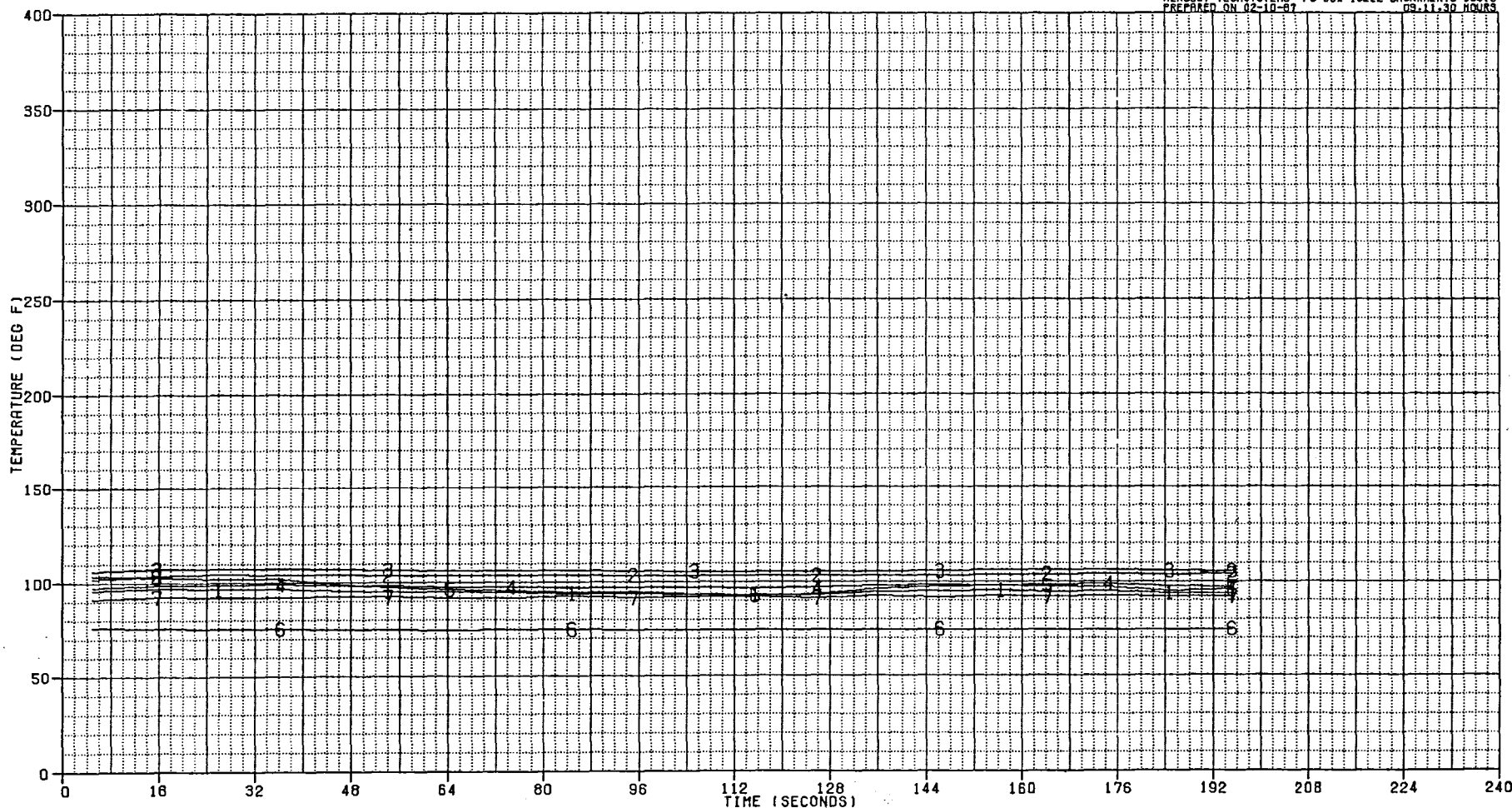


1 TC-7 DEG F  
 2 TC-10 DEG F  
 3 TC-11 DEG F  
 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-151  
 BARREL DATA  
 TEST DATE 08-18-86 1717 HOURS

ES-69

AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95812  
PREPARED ON 02-10-87 09:11:30 HOURS

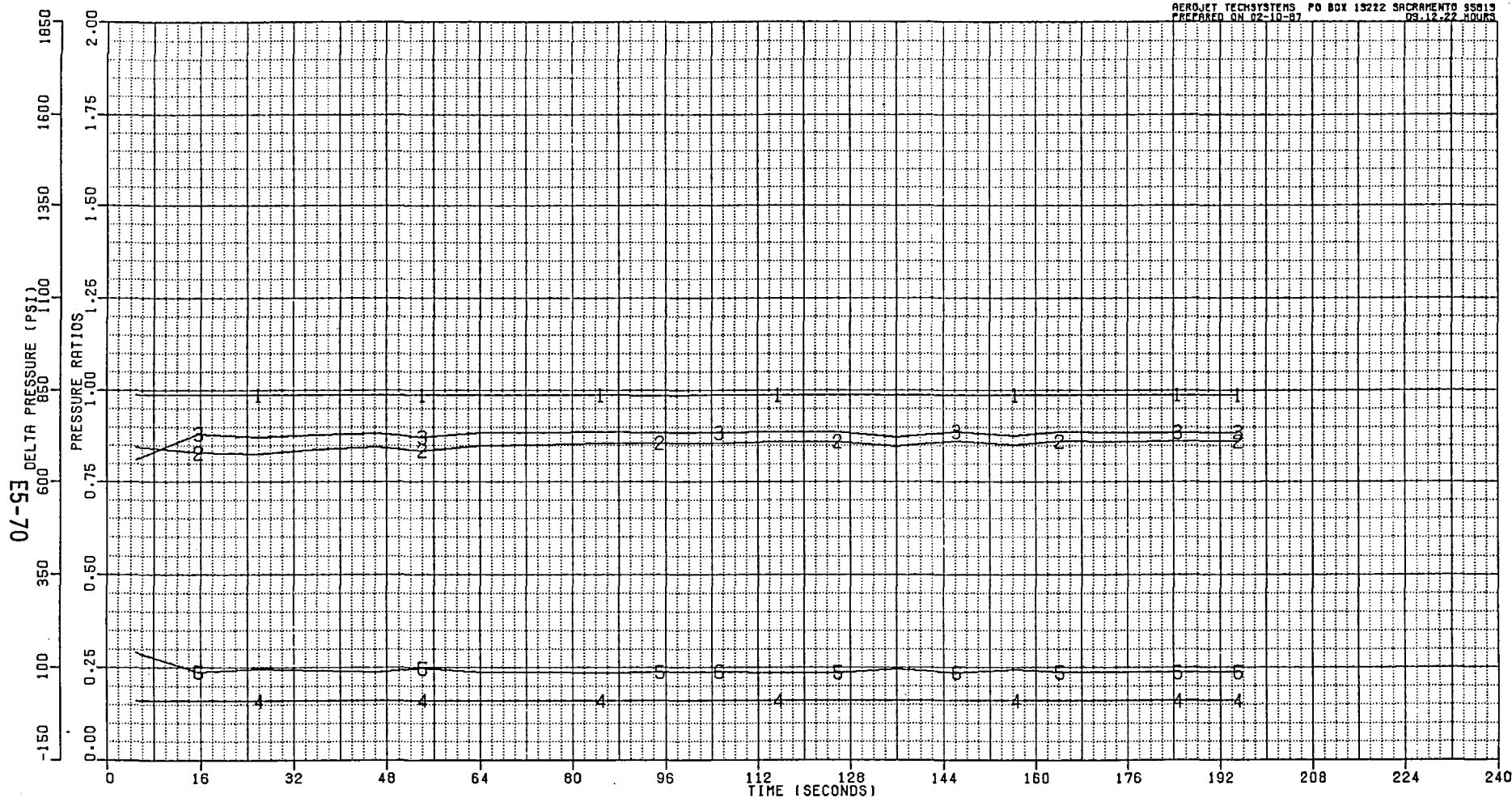


1 TWC-2 DEG F  
2 TWC-26 DEG F  
3 TWC-27 DEG F  
4 TWC-31 DEG F  
5 TWC-32 DEG F  
6 TWC-33 DEG F  
7 TC-7C DEG F

AEROJET  
**TechSystems**  
COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-151

TEST DATE 08-18-86 1717 HOURS



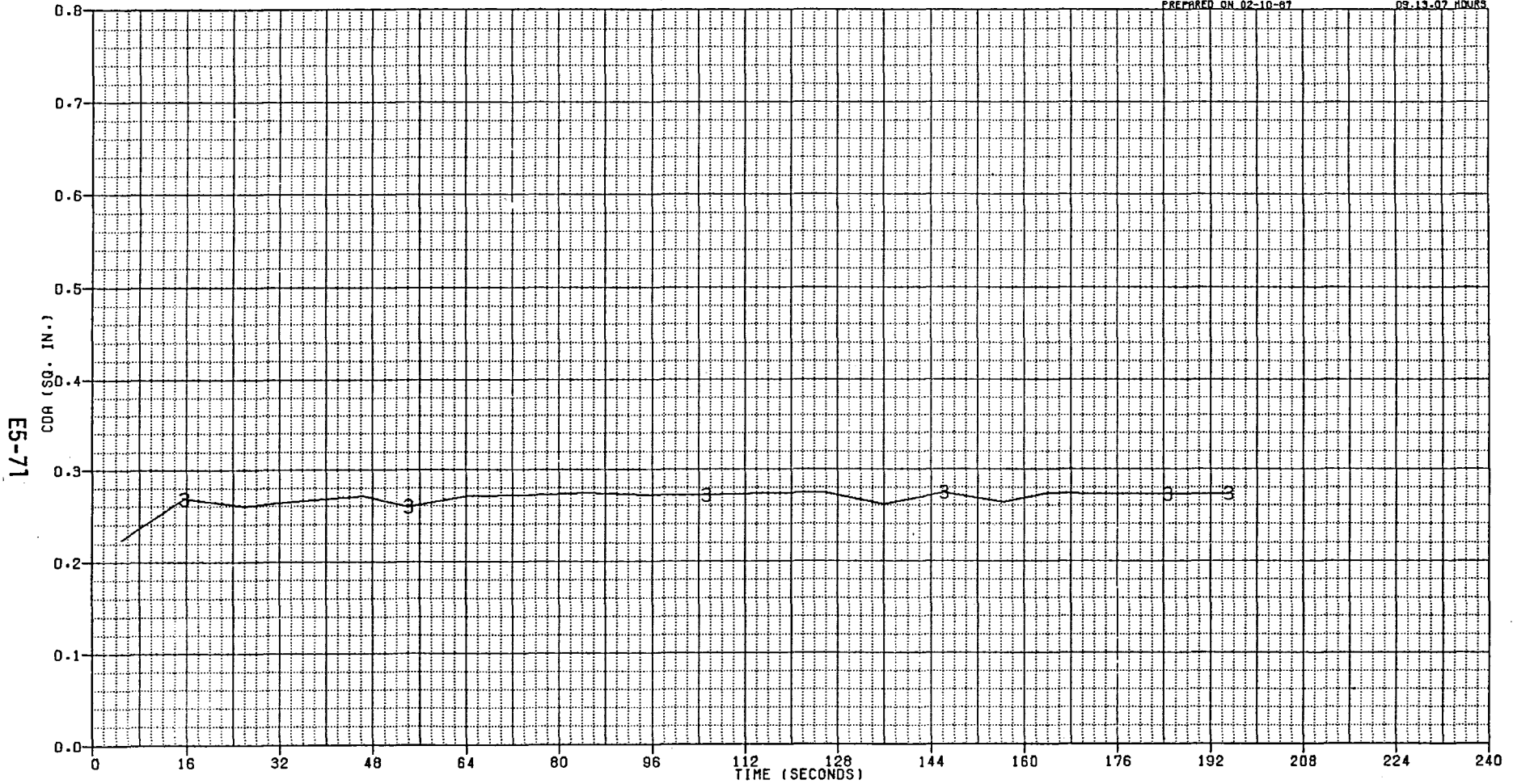
- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
PSI  
PSI

AEROJET  
**@TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-151  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 08-18-86 1717 HOURS



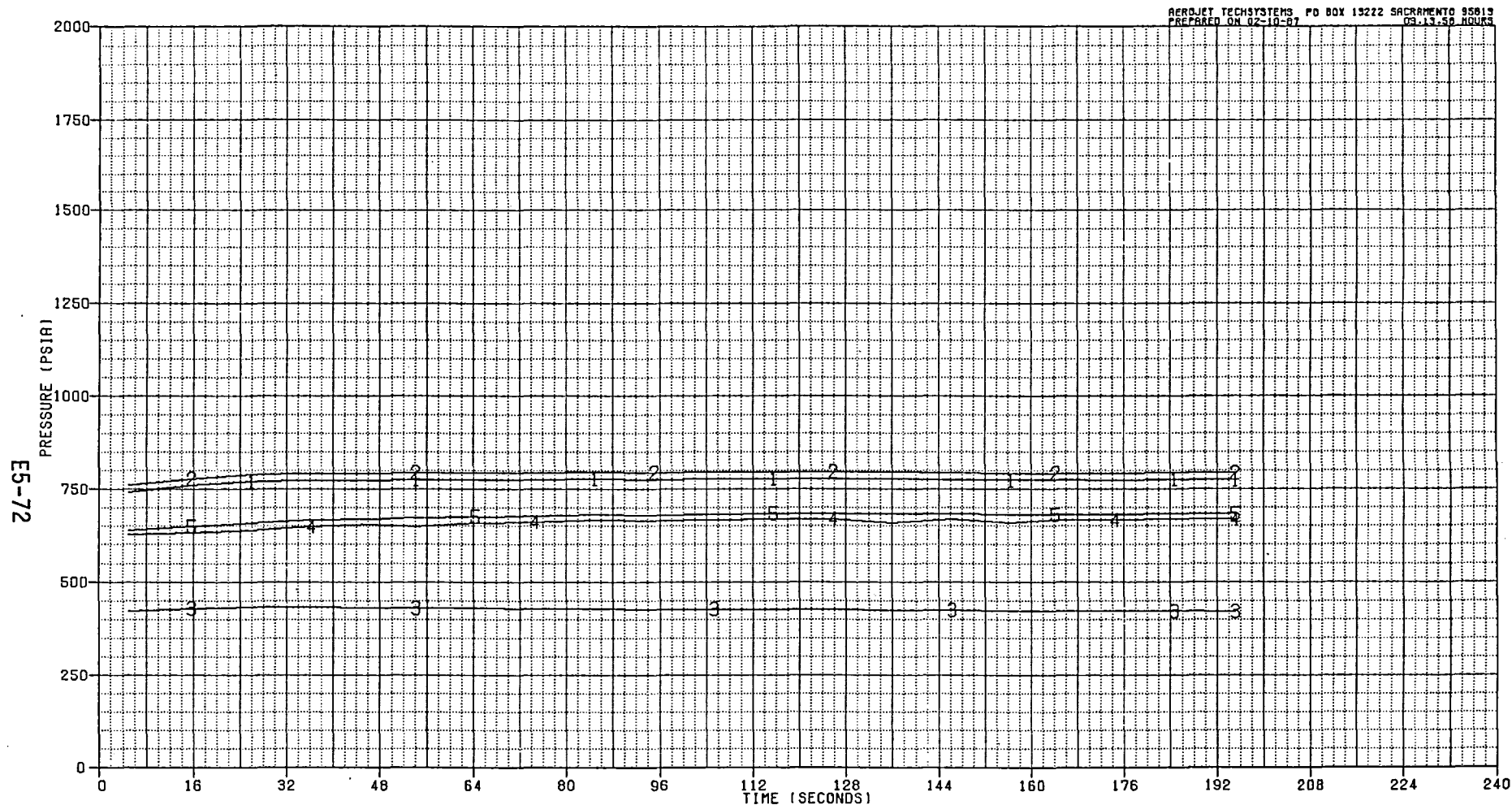


1 NA1 SQ. IN.  
 2 NA2 SQ. IN.  
 3 CDA

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-151  
 NOZZLE AREA CHANGE  
 TEST DATE 08-18-86 1717 HOURS

AEROJET  
**TechSystems**  
 COMPANY

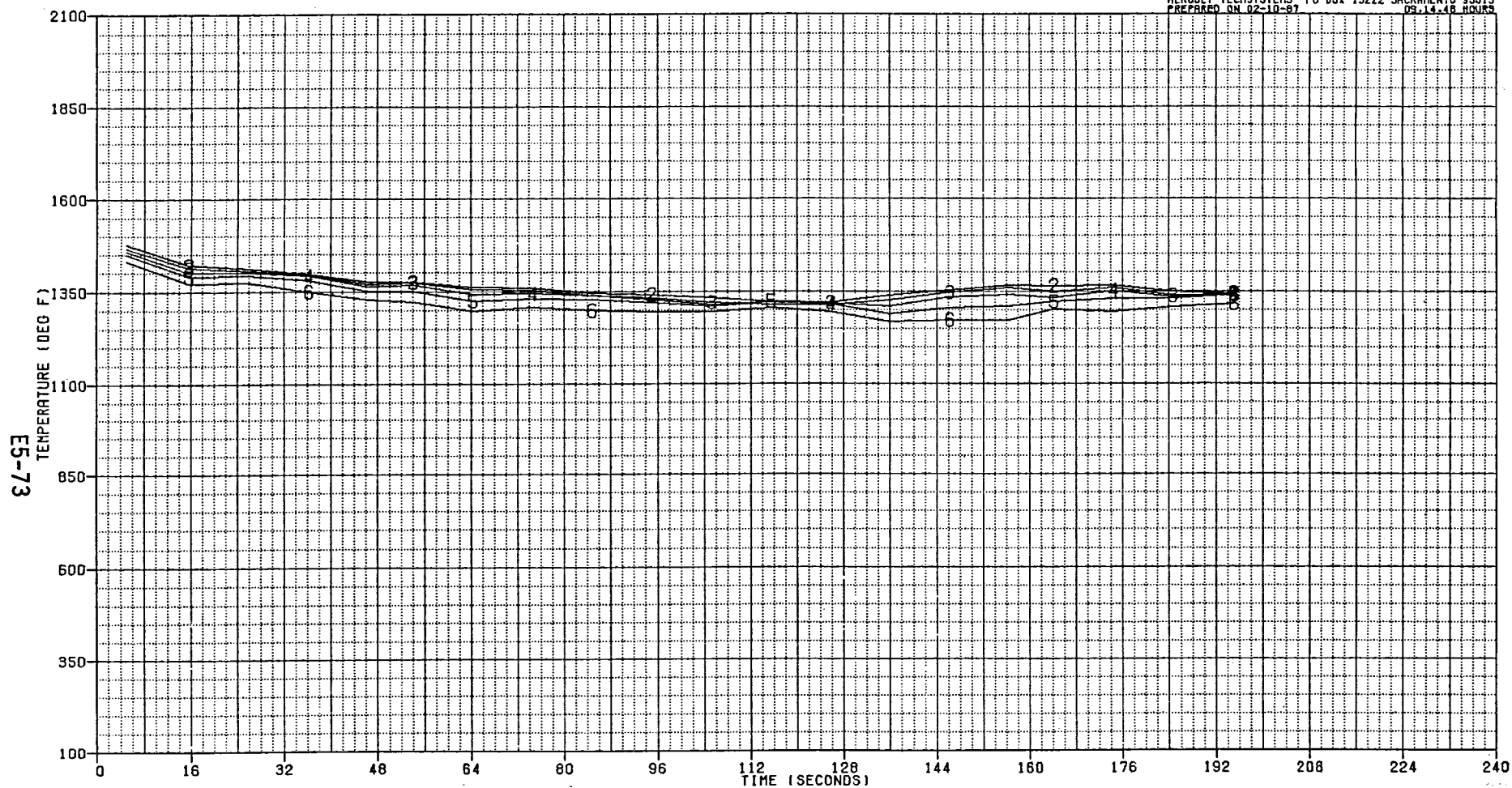




1 PCTSU PSIA  
2 PCTSU-2 PSIA  
3 PCTSU-3 PSIA  
4 PCTSD PSIA  
5 PCTSD-2 PSIA

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-151  
PRESSURE MEASUREMENTS  
TEST DATE 08-18-86 1717 HOURS

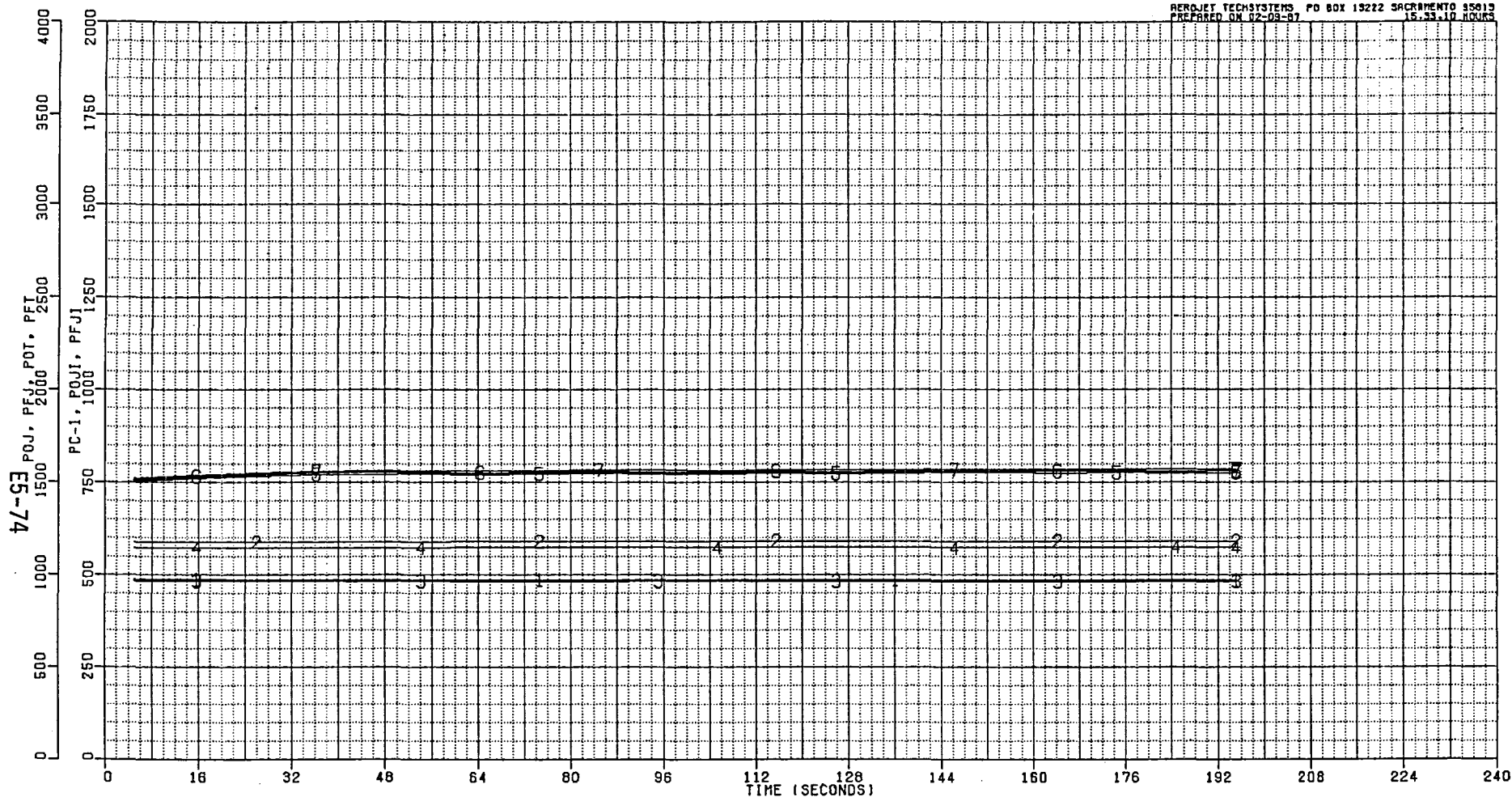


ES-73

- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F

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**@TechSystems**  
 COMPANY

GAS TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-151  
 PRESSURE MEASUREMENTS  
 TEST DATE 08-18-86 1717 HOURS



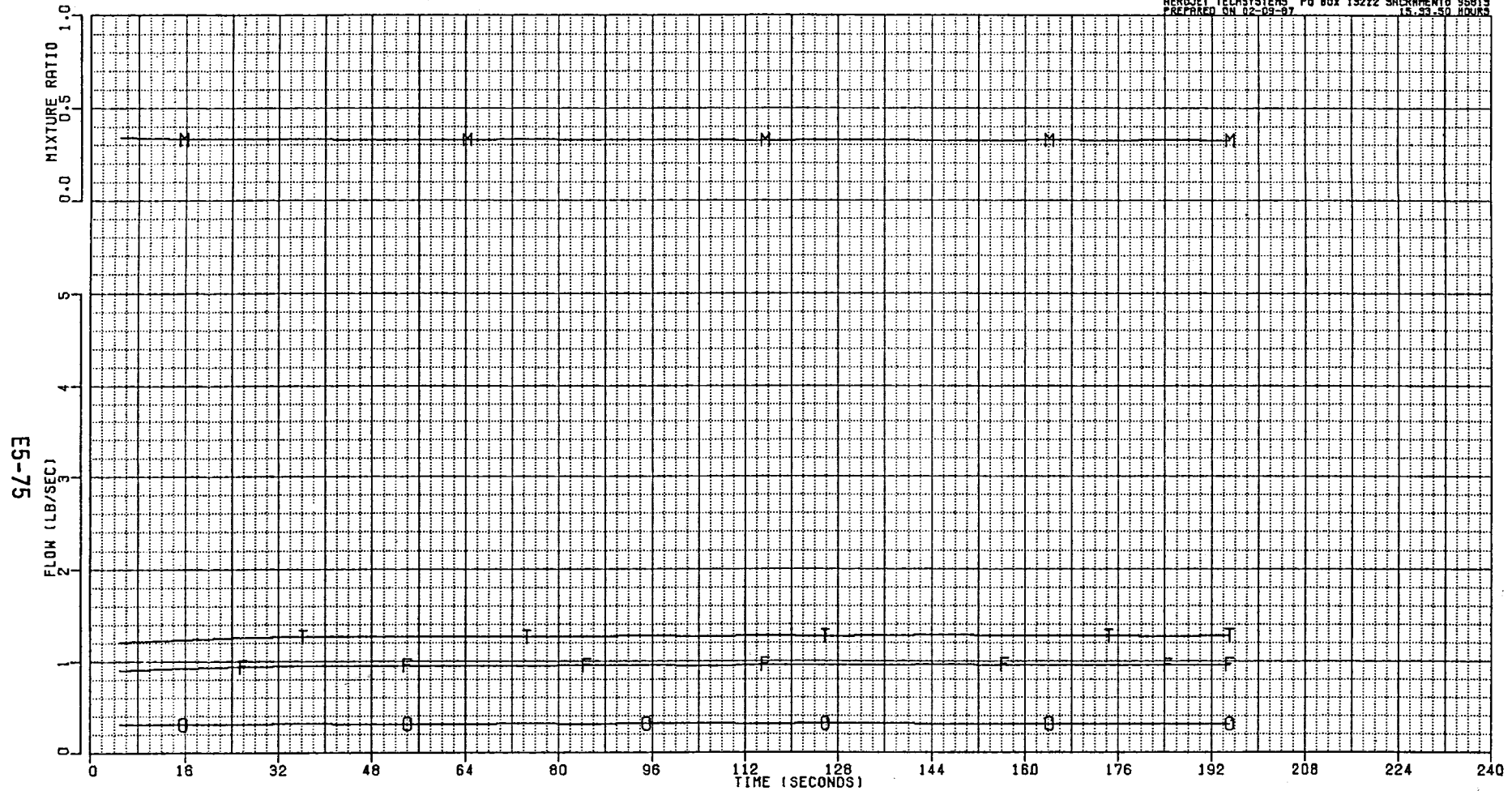
AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95613  
 PREPARED ON 02-09-87 15:53.10 HOURS

1 POT PSIA  
 2 PFT PSIA  
 3 POJ PSIA  
 4 PFJ PSIA  
 5 PC-1 PSIA  
 6 POJI PSIA  
 7 PFJI PSIA

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**@TechSystems**  
 COMPANY

MEASURED PRESSURES VS TIME  
 TEST NO. 2427-229-A6-152

TEST DATE 08-18-86 1738 HOURS

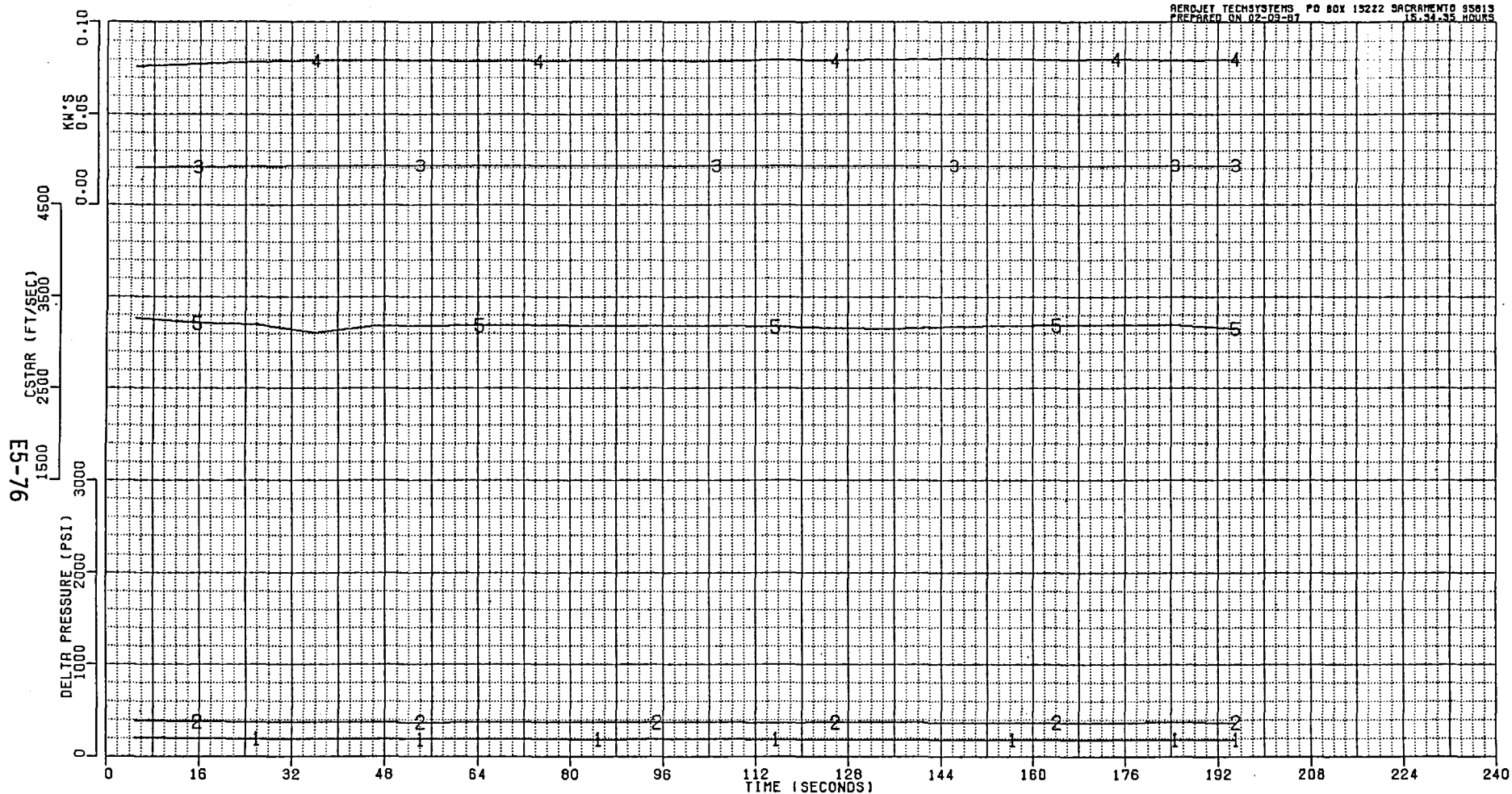


F WF LBS/SEC  
 O WOX LBS/SEC  
 T WTOT LBS/SEC  
 M MR

INJECTOR FLOW VS TIME  
 TEST NO. 2427-229-A6-152

TEST DATE 08-18-86 1738 HOURS

AEROJET  
**TechSystems**  
 COMPANY



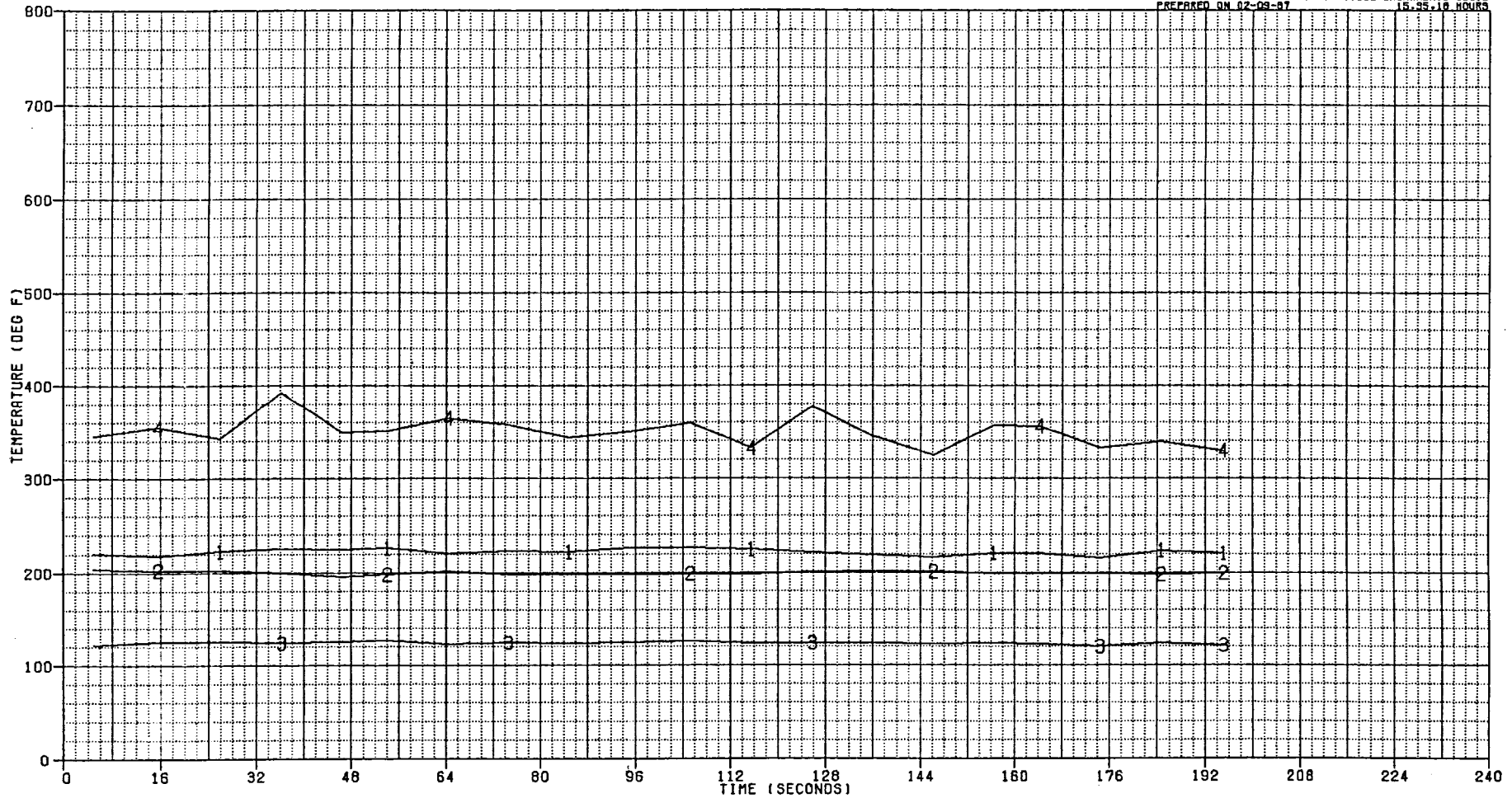
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PREPARED ON 02-09-87 15.34.35 HOURS

INJECTOR CALCULATIONS VS TIME  
TEST NO. 2427-229-A6-152

TEST DATE 08-18-86 1738 HOURS

AEROJET  
**TechSystems**  
COMPANY

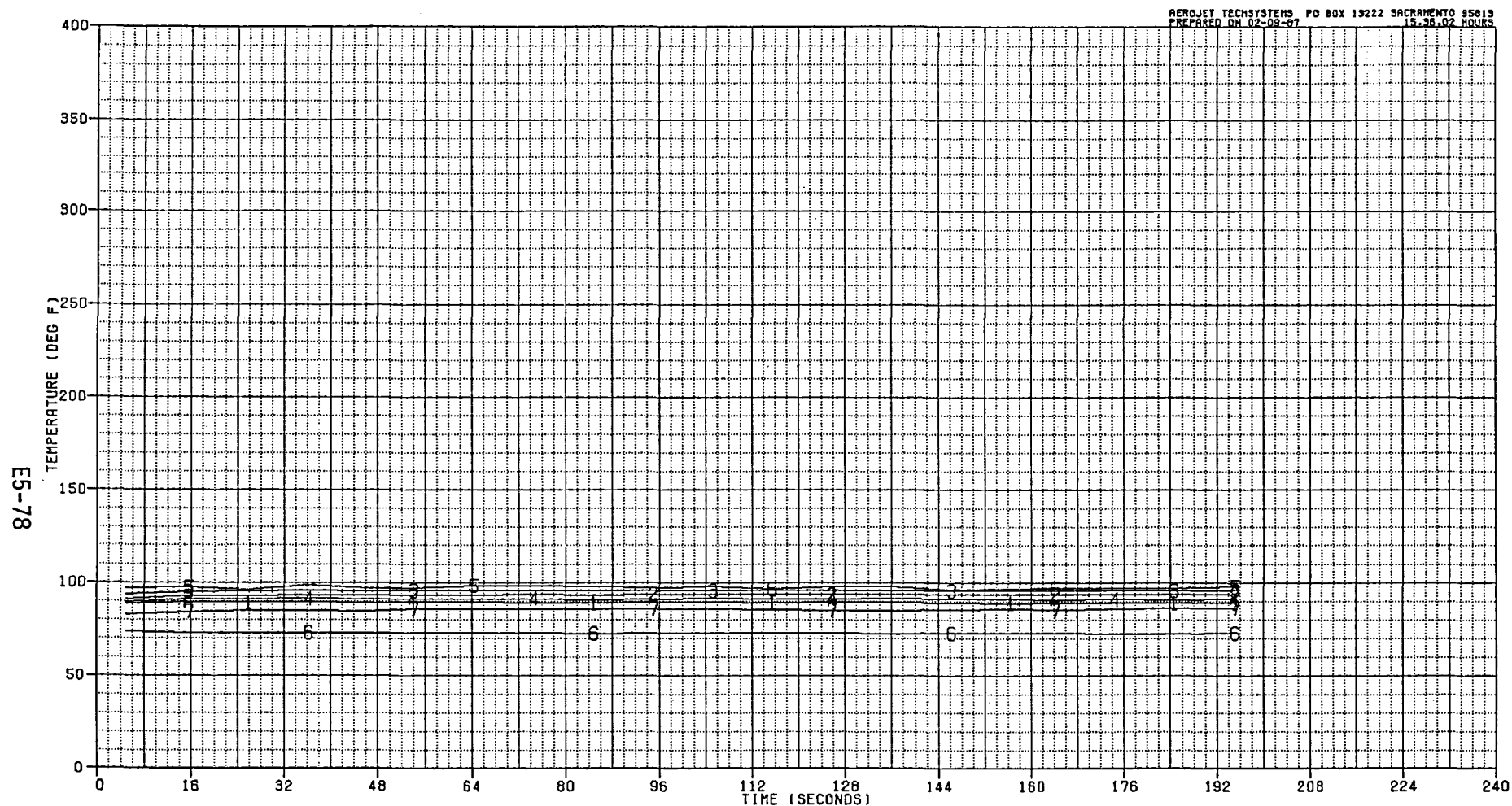
ES-77



- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-152  
 BARREL DATA  
 TEST DATE 08-18-86 1738 HOURS





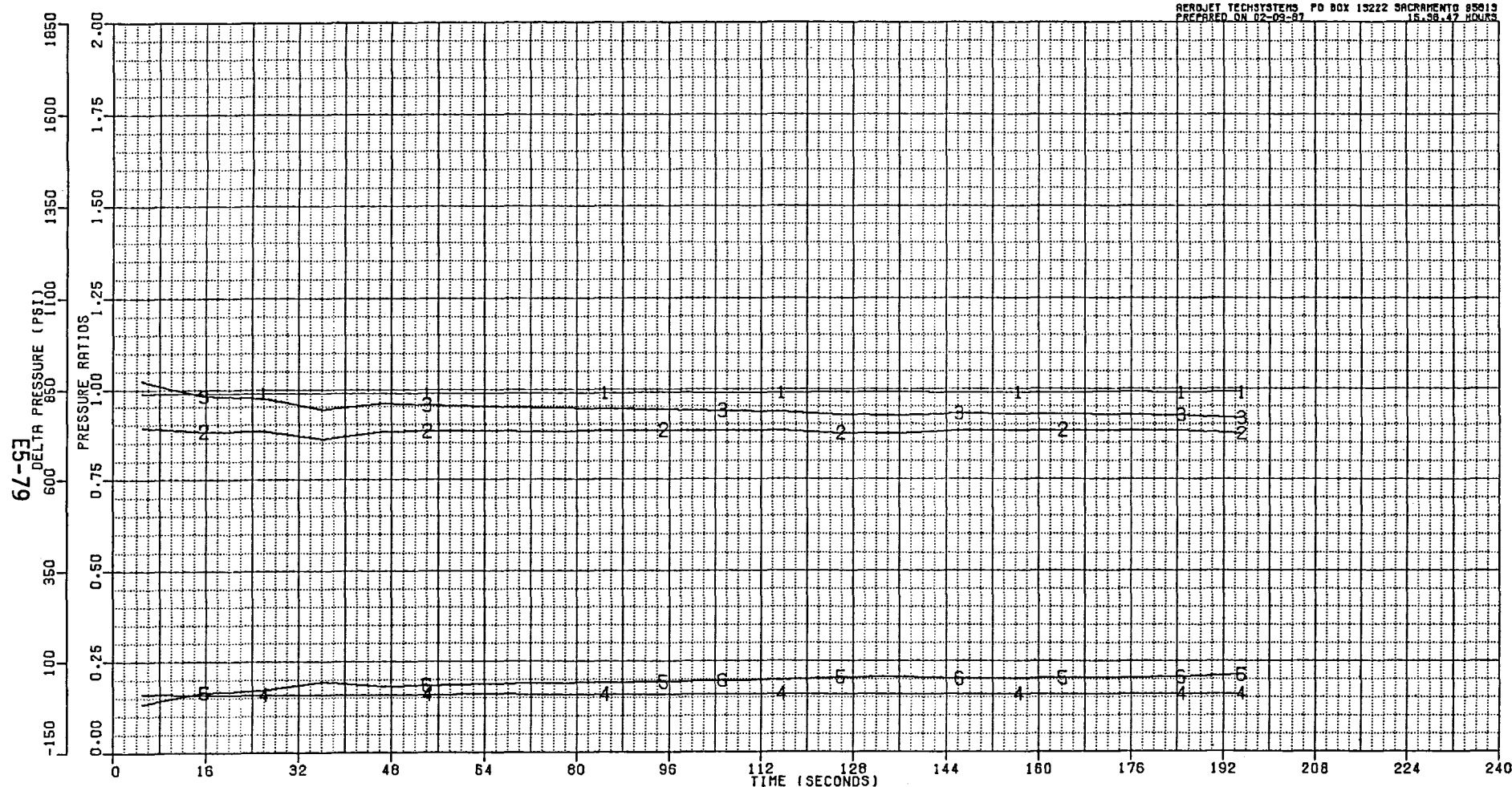
1 TWC-2 DEG F  
2 TWC-26 DEG F  
3 TWC-27 DEG F  
4 TWC-31 DEG F  
5 TWC-32 DEG F  
6 TWC-33 DEG F  
7 TC-7C DEG F

AEROJET  
**TechSystems**  
COMPANY

COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-152

TEST DATE 08-18-86 1738 HOURS





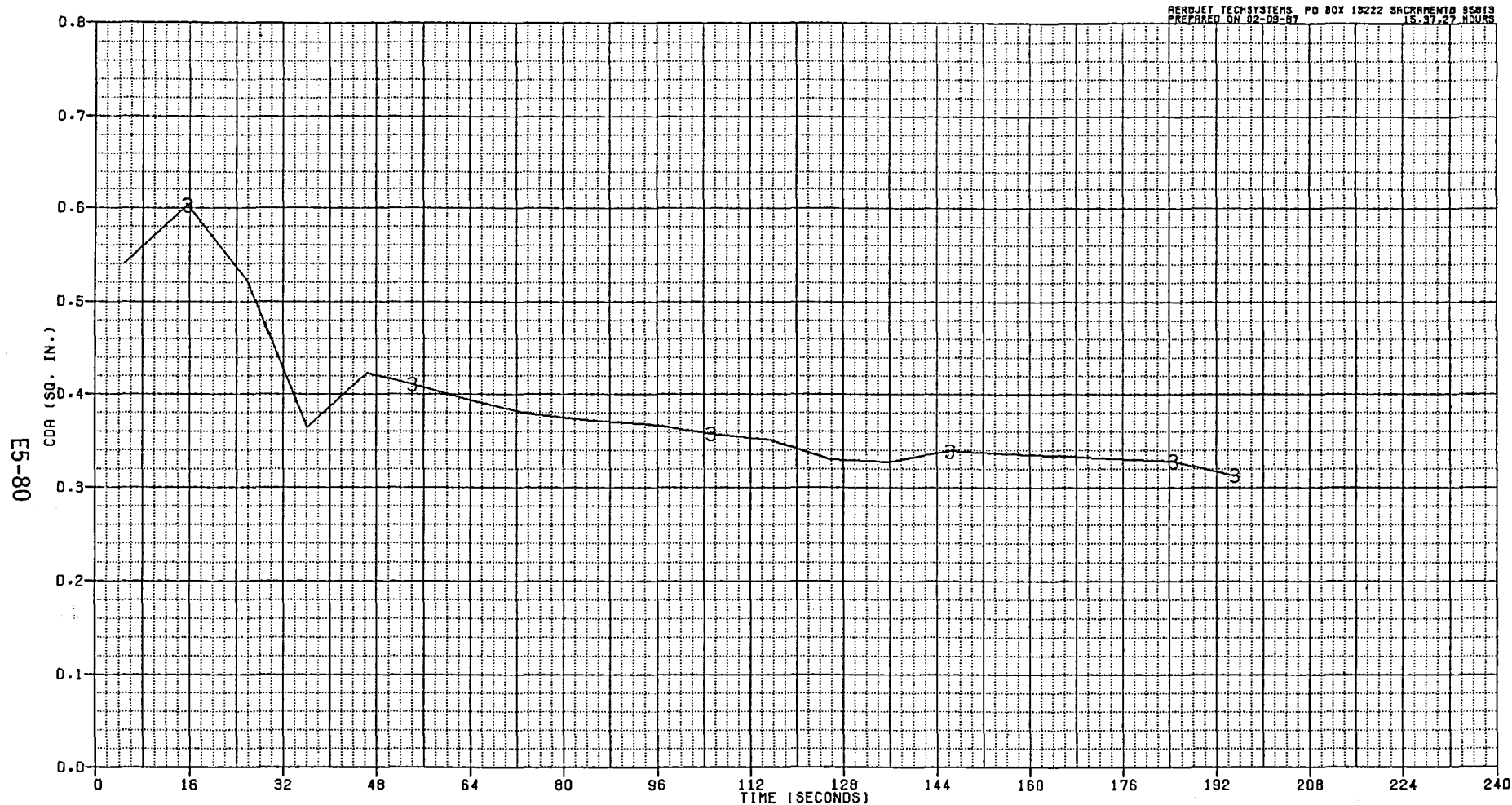
AEROJET TECHSYSTEMS PO BOX 15222 SACRAMENTO 95813  
PREPARED ON 02-09-87 15.58.47 HOURS

- 1 PRTR
  - 2 PRTS
  - 3 PRTS CORR
  - 4 DPTR
  - 5 DPTS-C
  - 6 DPTS
- PSI  
PSI  
PSI

AEROJET  
**TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-152  
CHAMBER PRESSURE DROPS AND RATIOS  
TEST DATE 08-18-86 1738 HOURS

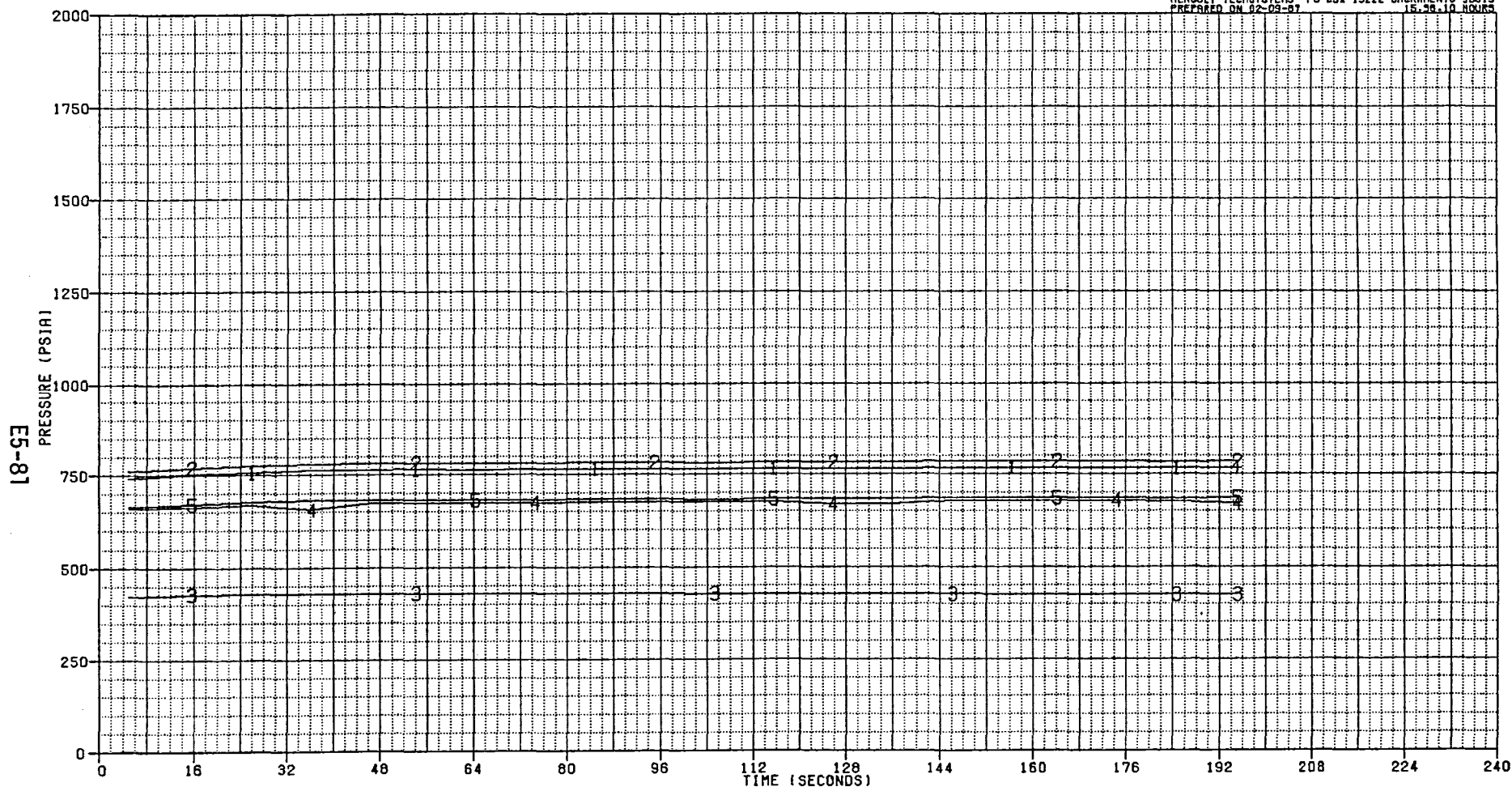




1 NA1 SQ. IN.  
2 NA2 SQ. IN.  
3 COA

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-152  
NOZZLE AREA CHANGE  
TEST DATE 08-18-86 1738 HOURS

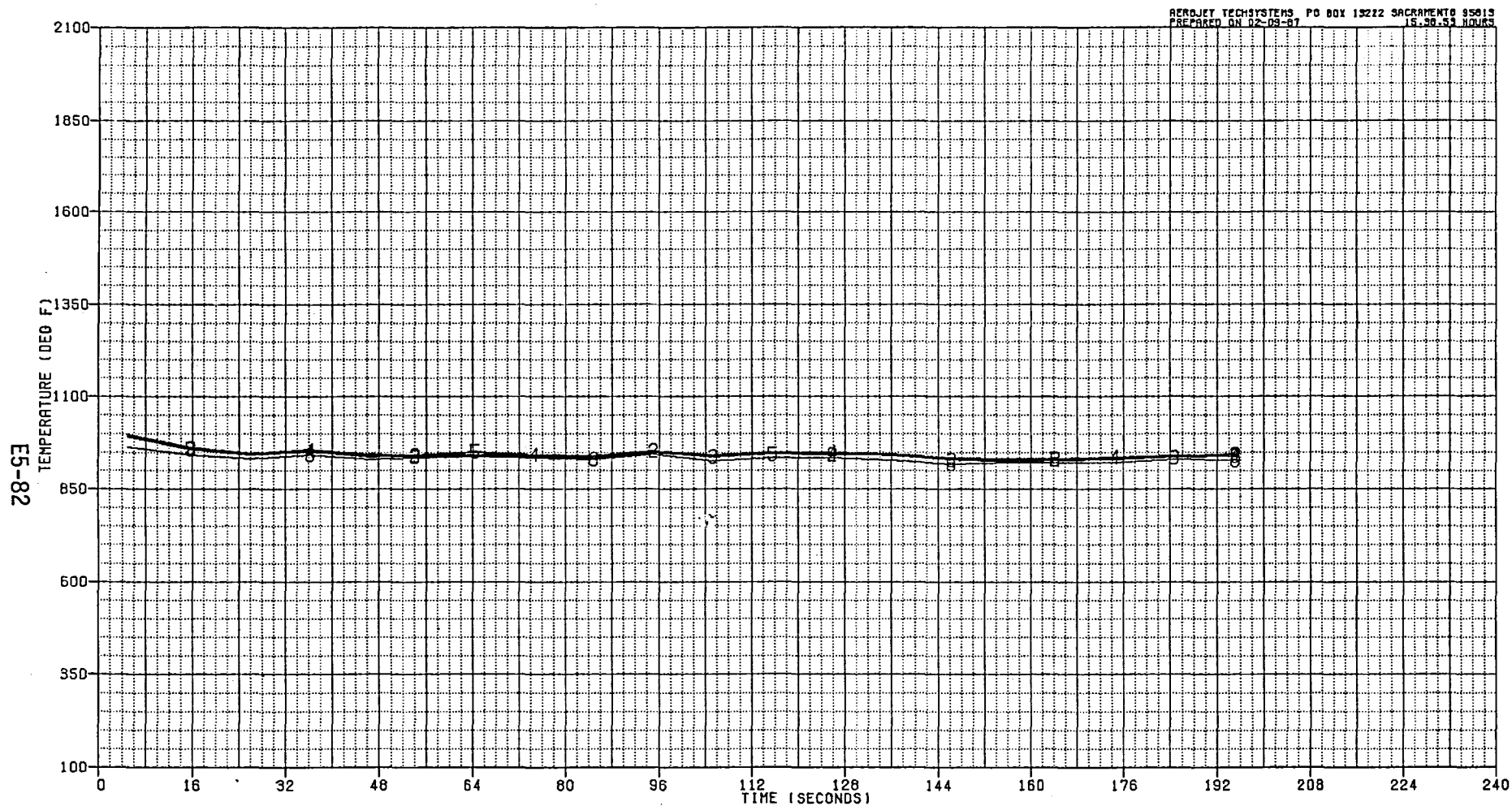
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**TechSystems**  
COMPANY



1 PCTSU PSIA  
2 PCTSU-2 PSIA  
3 PCTSU-3 PSIA  
4 PCTSD PSIA  
5 PCTSD-2 PSIA

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**@TechSystems**  
COMPANY

TURBINE BUILD-UP DATA VS TIME  
TEST NO. 2427-229-A6-152  
PRESSURE MEASUREMENTS  
TEST DATE 08-18-86 1738 HOURS

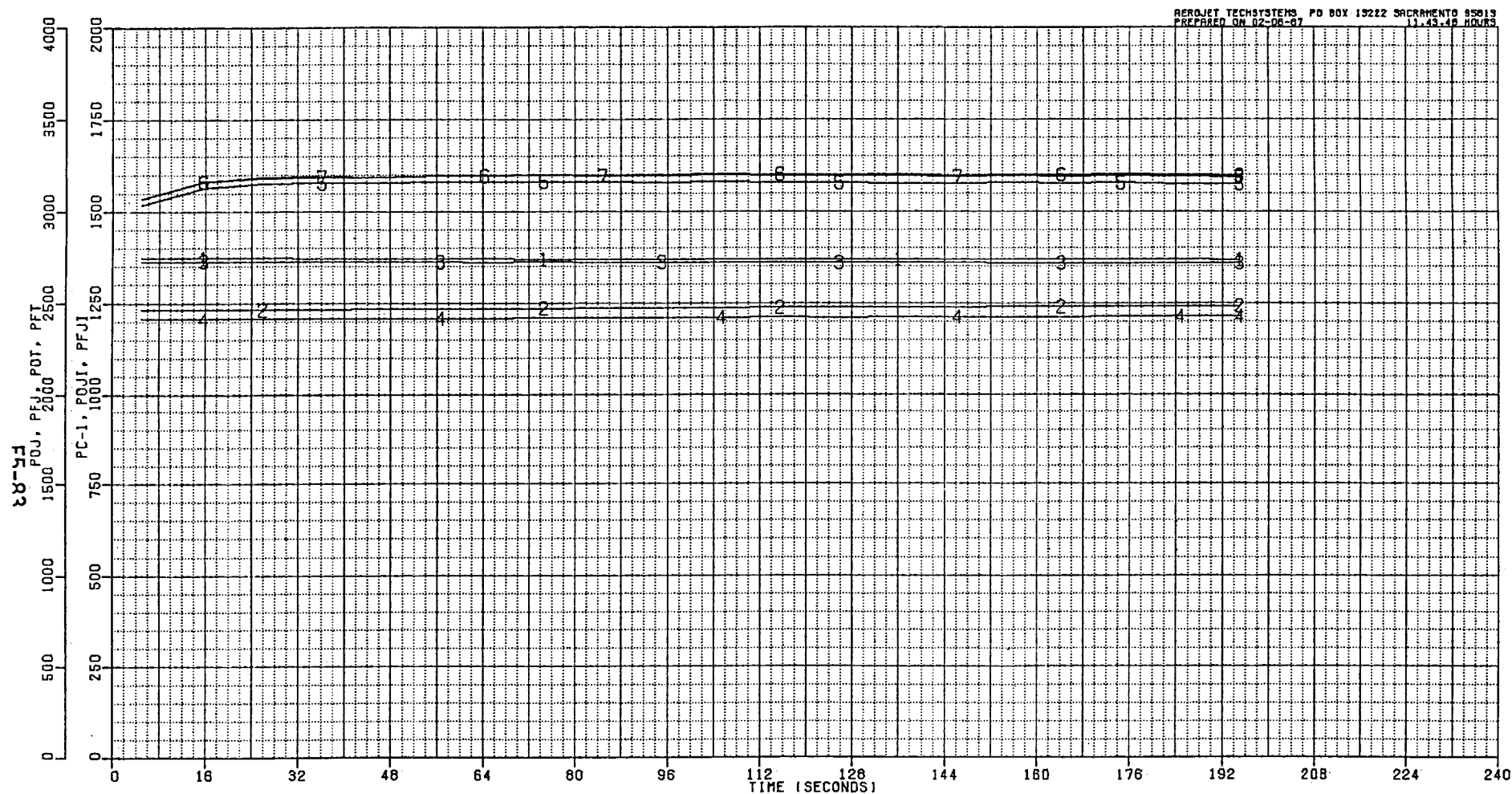


1 TCR-1 DEG F  
 2 TCR-2 DEG F  
 3 TCR-3 DEG F  
 4 TCR-4 DEG F  
 5 TCR-5 DEG F  
 6 TCR-6 DEG F

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**TechSystems**  
 COMPANY

GAS TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-152  
 PRESSURE MEASUREMENTS  
 TEST DATE 08-18-86 1738 HOURS

AEROJET TECHSYSTEMS PO BOX 13212 SACRAMENTO 95813  
 PREPARED ON 02-09-87 15:38:53 HOURS



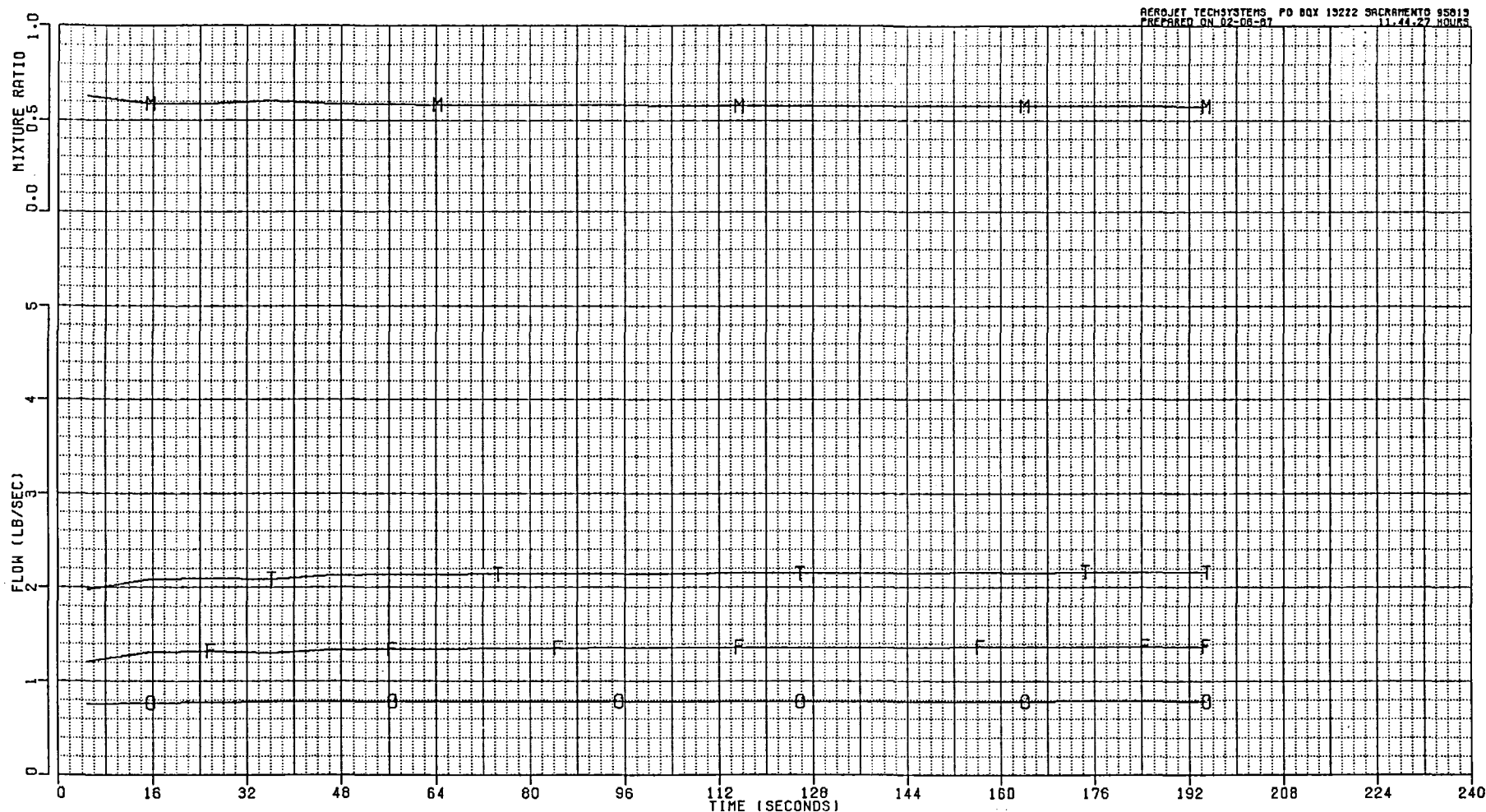
1 POT PSIA  
2 PFT PSIA  
3 POJ PSIA  
4 PFJ PSIA  
5 PC-1 PSIA  
6 POJI PSIA  
7 PFJI PSIA

AEROJET  
@TechSystems  
COMPANY

MEASURED PRESSURES VS TIME  
TEST NO. 2427-229-A6-153

TEST DATE 08-19-86 1428 HOURS

E5-84

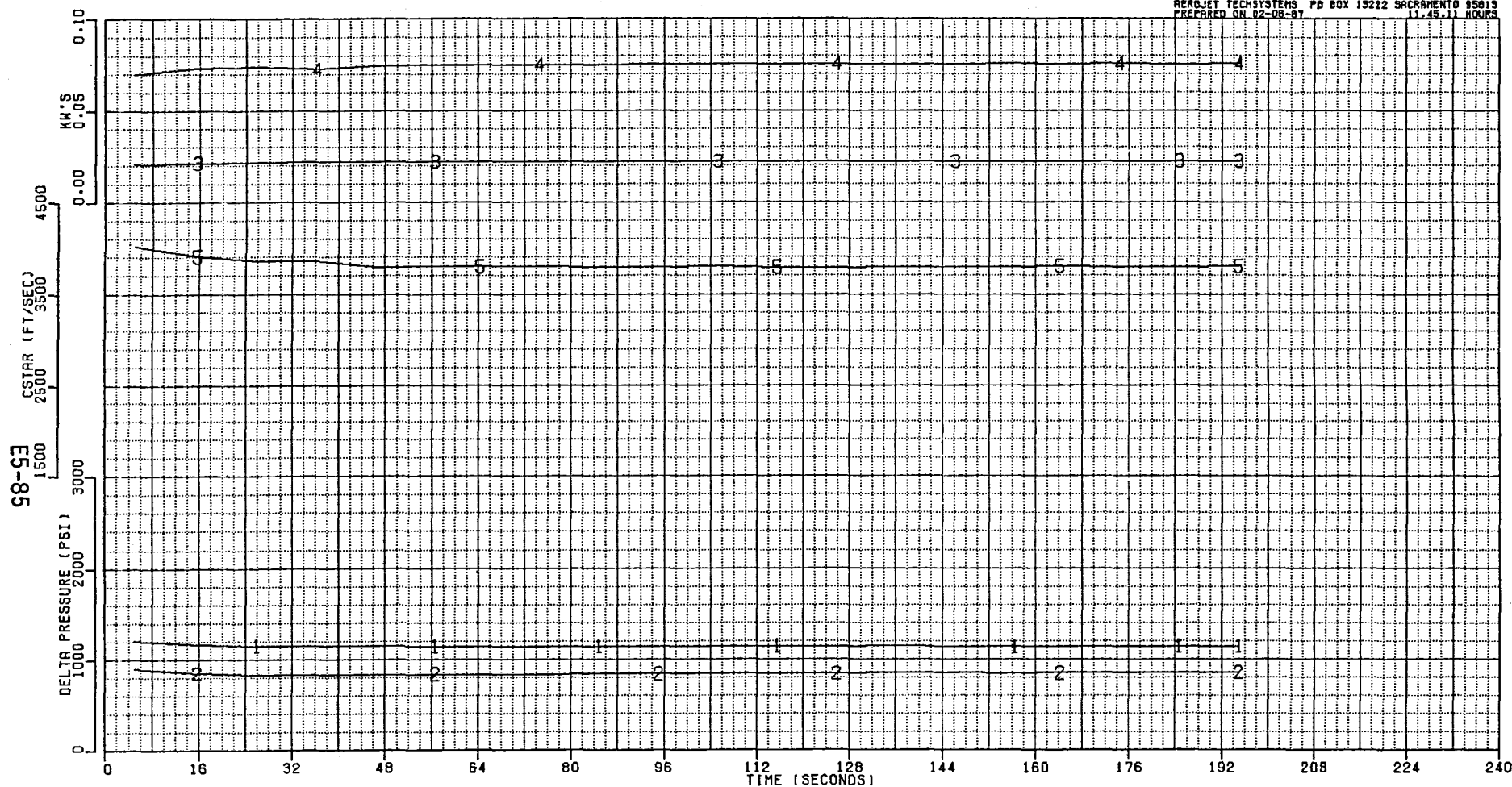
AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-08-87 11:44:27 HOURS

F WF LBS/SEC  
O WOX LBS/SEC  
T TOT LBS/SEC  
M MR

INJECTOR FLOW VS TIME  
TEST NO. 2427-229-A6-153

TEST DATE 08-19-86 1428 HOURS

AEROJET  
TechSystems  
COMPANY



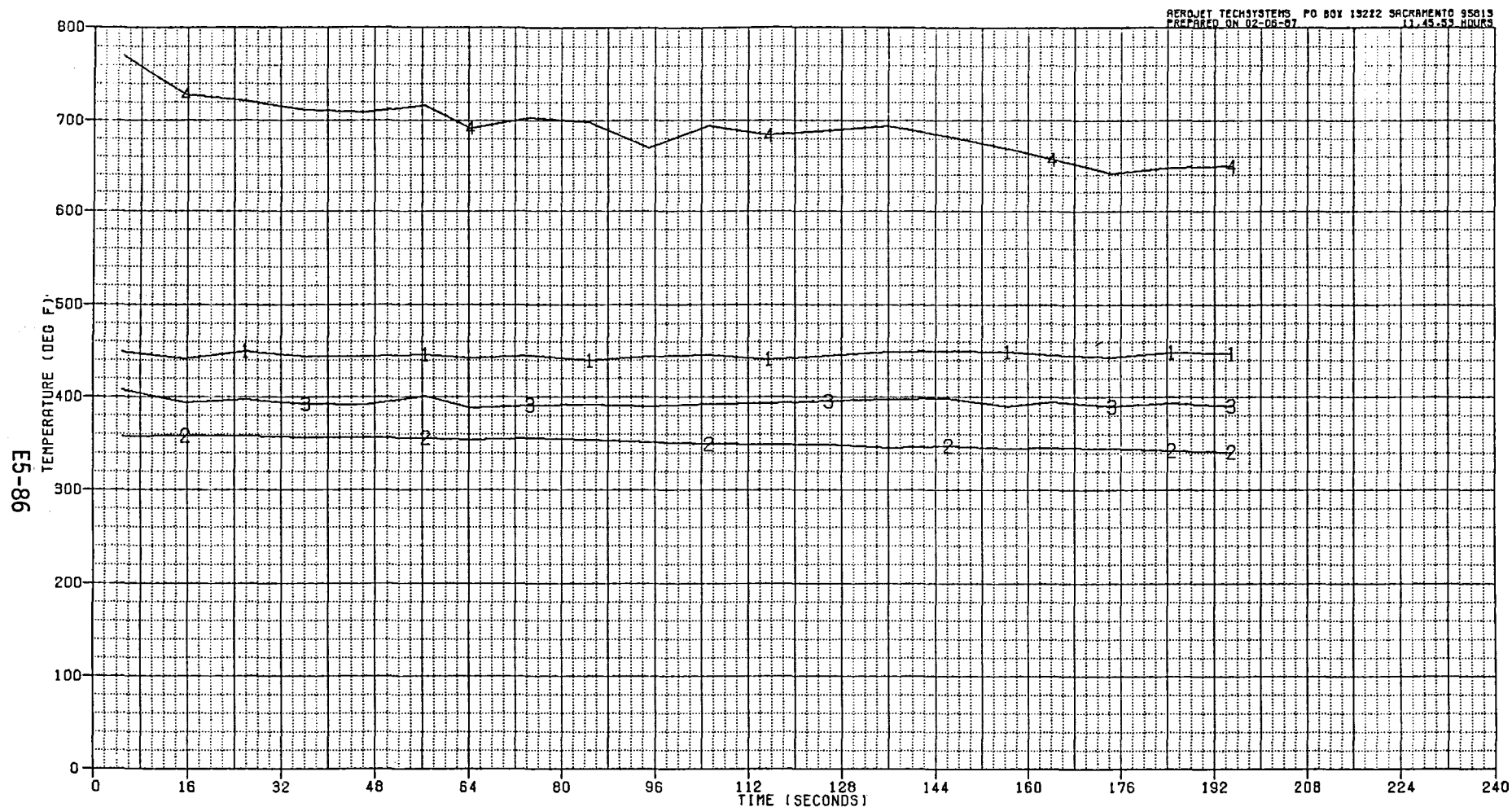
1 DPOJ PSI  
 2 DPFJ PSI  
 3 KWOJ  
 4 KWFJ  
 5 CSTRPB FT/SEC  
 6 CSTAR FT/SEC

AEROJET  
**TechSystems**  
 COMPANY

INJECTOR CALCULATIONS VS TIME  
 TEST NO. 2427-229-A6-153

TEST DATE 08-19-86 1428 HOURS

AEROJET TECHSYSTEMS PD BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-08-87 11:45:11 HOURS



AEROJET TECHSYSTEMS, PO BOX 132122 SACRAMENTO 95813  
 PREPARED ON 02-08-87 11:45:53 HOURS

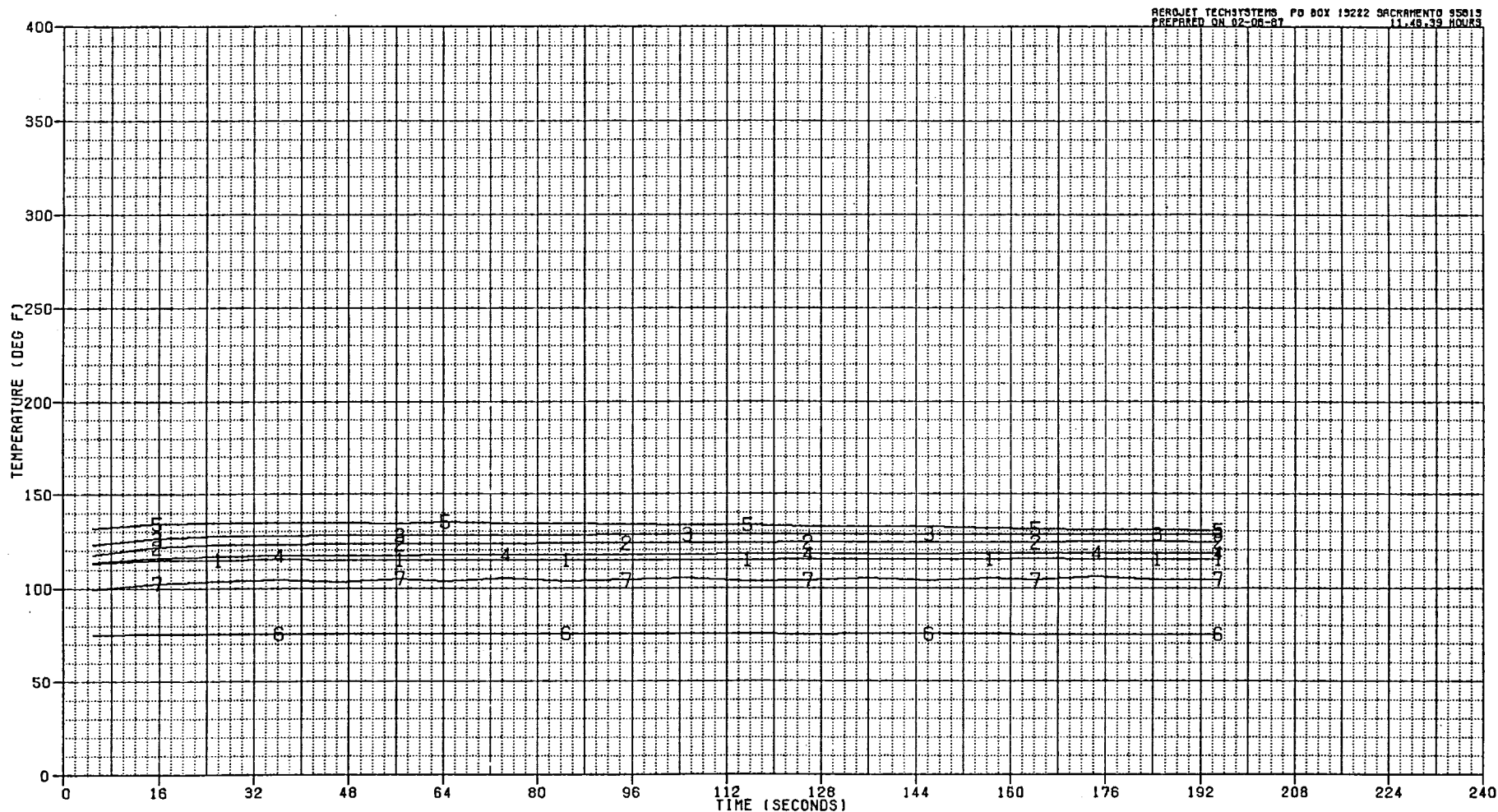
- 1 TC-7 DEG F
- 2 TC-10 DEG F
- 3 TC-11 DEG F
- 4 TC-12 DEG F

GAS SIDE WALL TEMPERATURES VS TIME  
 TEST NO. 2427-229-A6-153  
 BARREL DATA  
 TEST DATE 08-19-86 1428 HOURS

AEROJET  
**@TechSystems**  
 COMPANY



E5-87



- 1 TWC-2 DEG F
- 2 TWC-26 DEG F
- 3 TWC-27 DEG F
- 4 TWC-31 DEG F
- 5 TWC-32 DEG F
- 6 TWC-33 DEG F
- 7 TC-7C DEG F

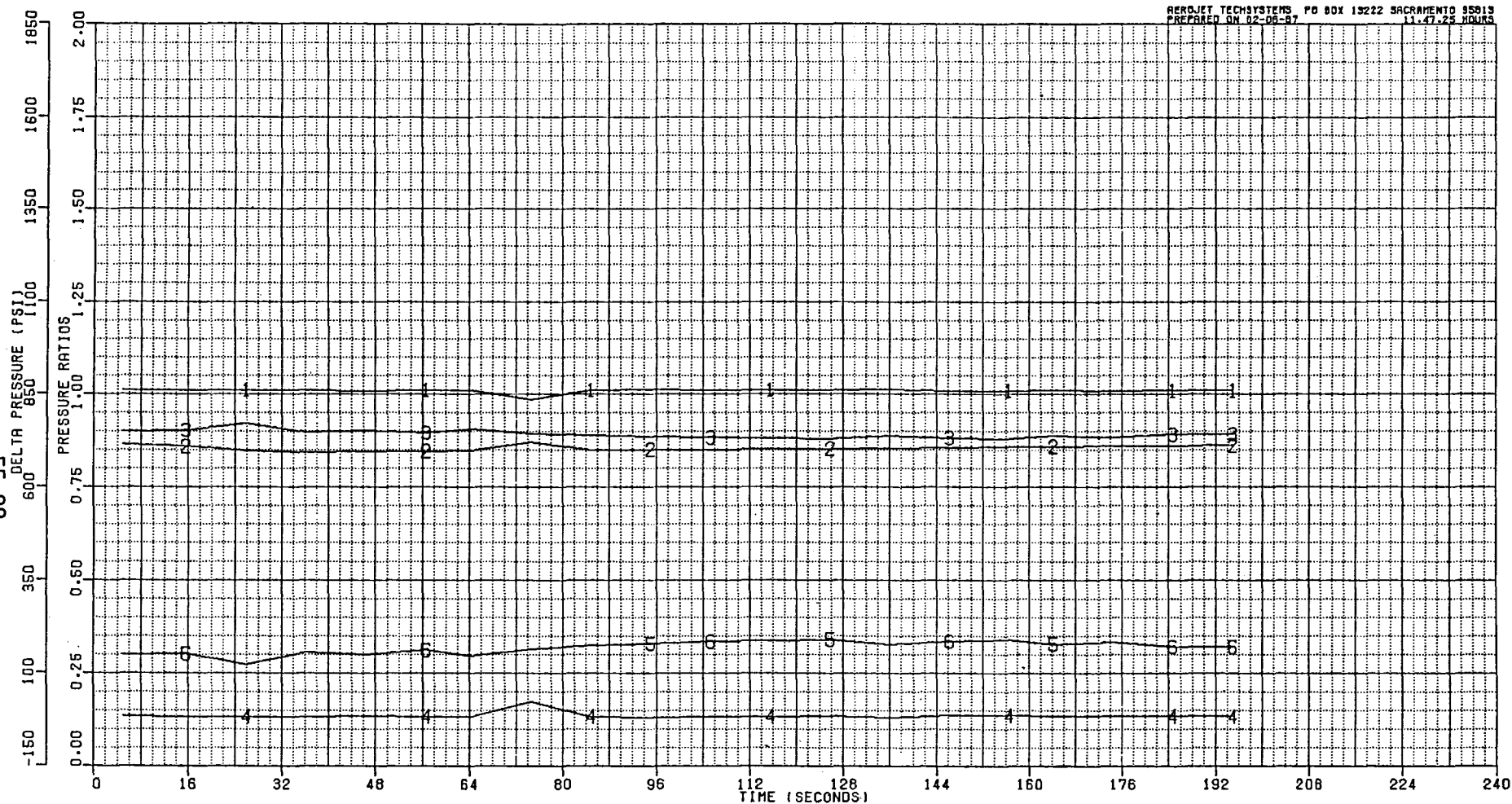


COOLANT OUTLET TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-153

TEST DATE 08-19-86 1428 HOURS



88-58



AEROJET TECHSYSTEMS PO BOX 13222 SACRAMENTO 95813  
 PREPARED ON 02-06-87 11:47:25 HOURS

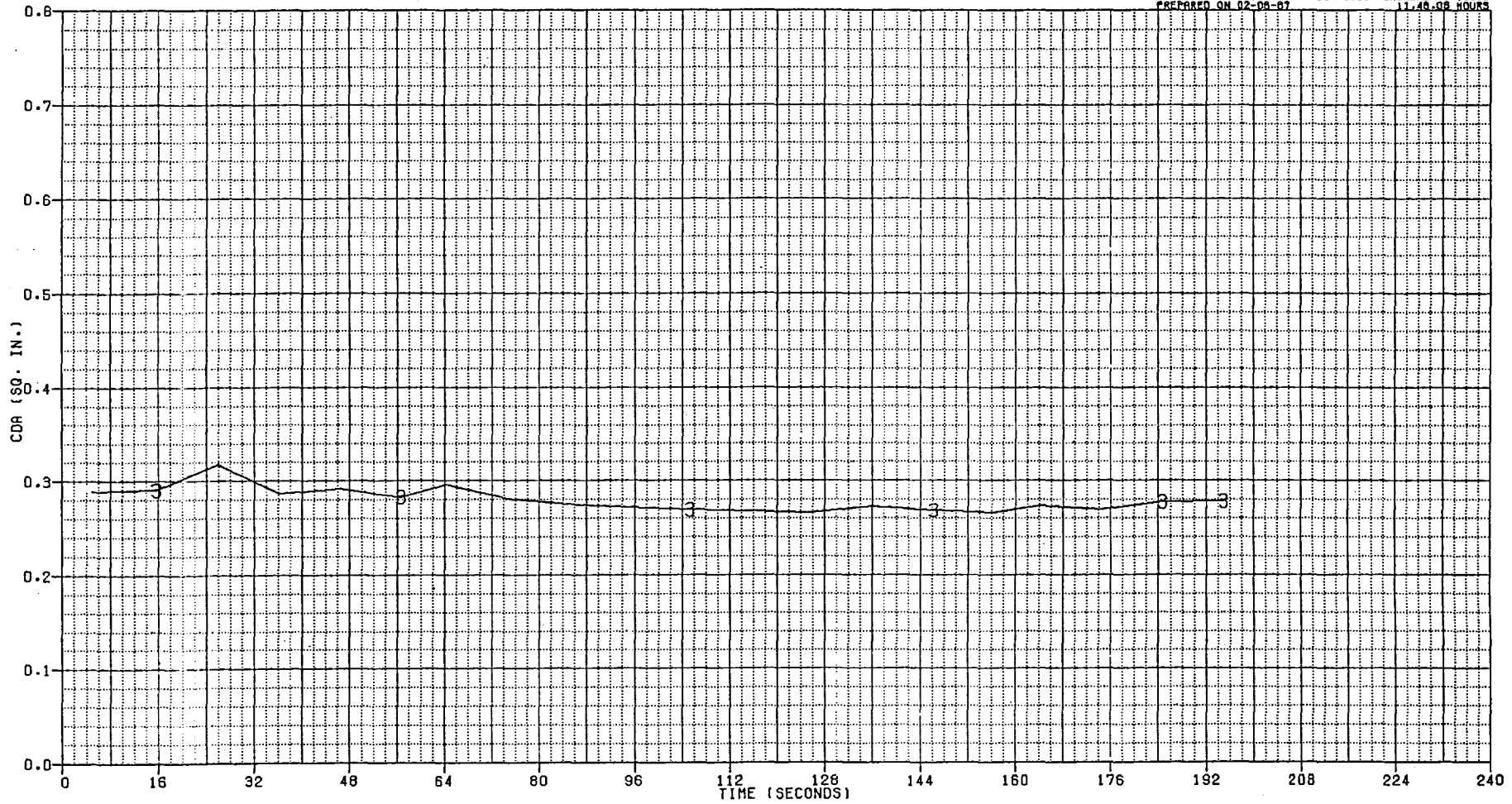
- 1 PRTR
- 2 PRTS
- 3 PRTS CORR
- 4 DPTR
- 5 DPTS-C
- 6 DPTS

PSI  
 PSI  
 PSI

AEROJET  
**TechSystems**  
 COMPANY

TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-153  
 CHAMBER PRESSURE DROPS AND RATIOS  
 TEST DATE 08-19-86 1428 HOURS

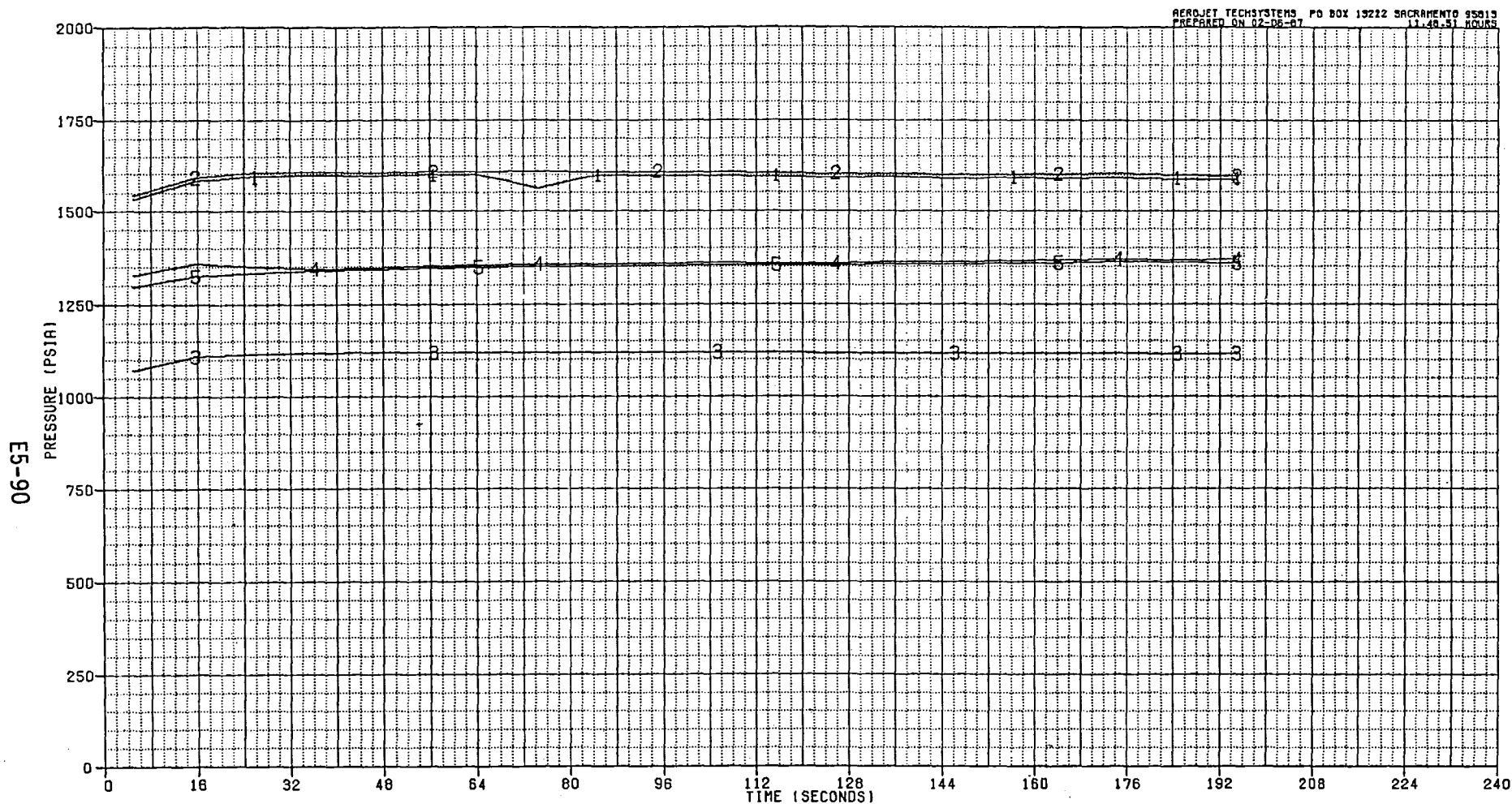
65-89



1 NA1 SQ. IN.  
 2 NA2 SQ. IN.  
 3 COA

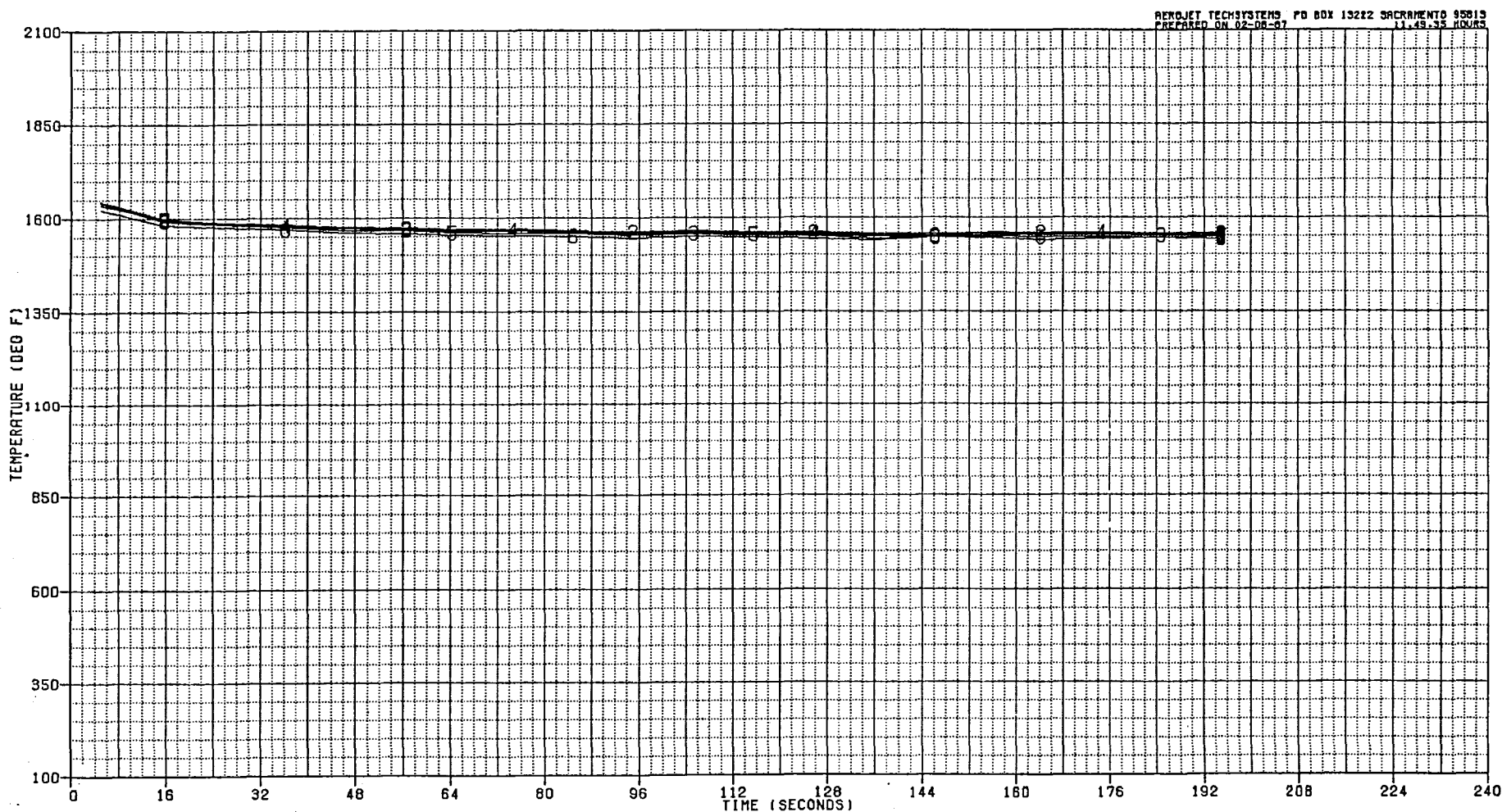
TURBINE BUILD-UP DATA VS TIME  
 TEST NO. 2427-229-A6-153  
 NOZZLE AREA CHANGE  
 TEST DATE 08-19-86 1428 HOURS

AEROJET  
**@TechSystems**  
 COMPANY



AEROJET  
@TechSystems  
COMPANY

16-91



AEROJET TECHSYSTEMS, PO BOX 13222 SACRAMENTO 95813  
PREPARED ON 02-08-87 11:49:35 HOURS

- 1 TCR-1 DEG F
- 2 TCR-2 DEG F
- 3 TCR-3 DEG F
- 4 TCR-4 DEG F
- 5 TCR-5 DEG F
- 6 TCR-6 DEG F

AEROJET  
**TechSystems**  
COMPANY

GAS TEMPERATURES VS TIME  
TEST NO. 2427-229-A6-153  
PRESSURE MEASUREMENTS  
TEST DATE 08-19-86 1428 HOURS

**End of Document**